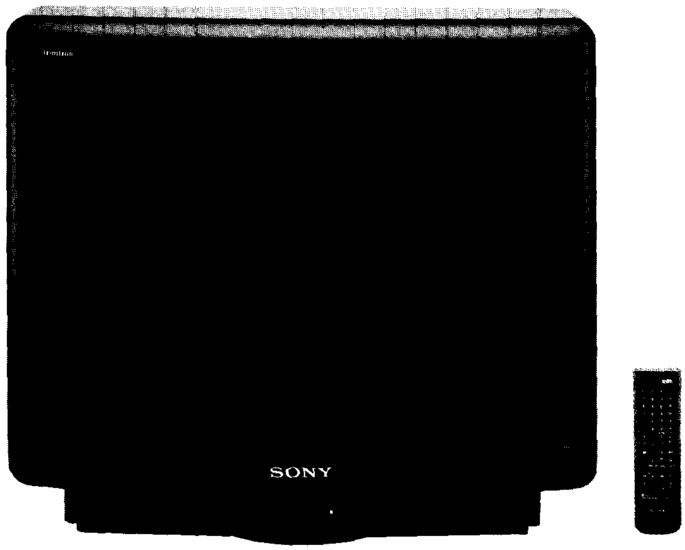
SERVICE MANUAL

AE-2 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-X2161A	RM-830	Italian	SCC-F18G-A
KV-X2160B	RM-830	French	SCC-F32J-A
KV-X2161B	RM-830	French	SCC-F71C-A
KV-X2161D	RM-830	AEP	SCC-F26G-A
KV-X2163E	RM-830	Spanish	SCC-F33G-A
KV-X2161K	RM-830	OIRT	SCC-F72C-A
KV-X2162U	RM-830	UK	SCC-F25F-A



TRINITRON® COLOR TV

SONY®

MICROFILM

ITEM MODEL	Television system	Stereo system	Channnel coverage	Color system
Italian	B/G/H, D/K	GERMAN Stereo	ITALIA VHF:A-H2 (C) UHF:21-69 PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC 4.43, NTSC 3.58 (VIDEO IN)
French	B/G/H, D/K L, I	GERMAN Stereo	L VHF:F02-F10 UHF:F21-F60 CABLE:B-Q B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69 I UHF:B21-B69	PAL, SECAM NTSC 4.43, NTSC 3.58 (VIDEO IN)
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC 4.43, NTSC 3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC 4.43, NTSC 3.58 (VIDEO IN)
OIRT	B/G/H, D/K	GERMAN Stereo	B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 D/K VHF:R1-R12 UHF:R21-R60	PAL, SECAM NTSC 4.43, NTSC 3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF:B21-B69	PAL SECAM, NTSC 4.43 NTSC 3.58 (VIDEO IN)

MODEL	Italian	French	AEP	Spanish	ORIT	UK
Power consumption	85 Wh	85 Wh	85 Wh	87 Wh	85 Wh	124 Wh

Picture tube	Hi-Black Trinitron Approx. 54.5cm (Approx. 51cm picture measured diagonally) 110 ° -deflection

【REAR】

⊖ 1 21-pin Euro connector
(CENELEC standard)
Inputs for audio and video signals
- inputs for RGB
- outputs of TV video and audio signals

⊖ 2/⊖ 2 21-pin Euro connector
- inputs for audio and video signals
- inputs for S video
- outputs for audio and video signals

【FRONT】

⊖ 3 Video input-phono jack
⊖ Audio input-phono jacks
⊖ 3 S video input 4-pin DIN
∩ Headphone jack : Stereo minijack

Sound output	2×15 (RMS) 2×30 (Music)
Power reqirement	220-240 V
Dimensions	Approx. 512 × 449 × 456 mm
Weight	Approx. 26.5 kg
Supplied accessories	RM-830 Remote Commander (1) IEC designation R 6 batteries (2)

【RM-830】

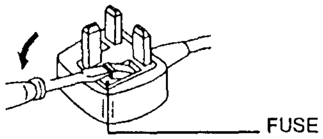
Remote control system	infrared control
Power requirements	3 V dc 2 batteries IEC designation R 6 (size AA)
Dimentions	Approx.65×225×21 mm (w/h/d)
Weight	Approx.157g (Not including Batteries)

Design and specifications are subject to change without notice.

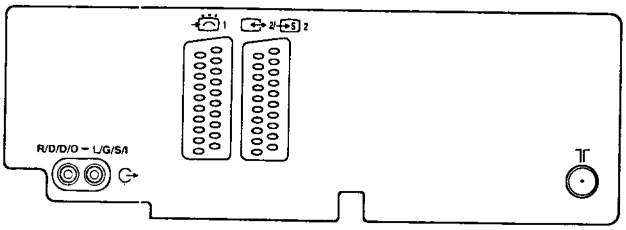
Model name Item	KV-X 2161 A	KV-X 2160 B KV-X 2161 B	KV-X 2161 D	KV-X 2163 E	KV-X 2161 K	KV-X 2162 U
Pal Comb	OFF	OFF	OFF	OFF	OFF	OFF
PiP	OFF	OFF	OFF	OFF	OFF	OFF
RGB Priority	ON	OFF	OFF	OFF	OFF	OFF
Woofer Box	OFF	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF	OFF
Dyn. Convergence	OFF	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON	ON
Norm B/G	ON	ON	ON	ON	ON	OFF
Norm I	OFF	ON	OFF	OFF	OFF	ON
Norm D/K	ON	ON	ON	ON	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF	OFF
Language Preset	Italiano	Francais	Deutsch	None	English	English

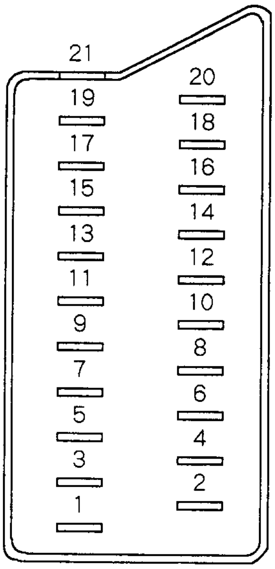
Warning (UK Model only)

The flexible mains lead is supplied connected to a B.S. 1363 fused plug having a fuse of 5 amp capacity. Should the fuse need to be replaced, use 5 AMP FUSE approved by ASTA to BS 1362, ie. carries the ◈ mark.
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR YOUR SOCKET OUTLETS IN YOUR HOME, IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET OUTLET.
When an alternative type of plug is used it should be fitted with a 5 AMP FUSE, otherwise the circuit should be protected by a 5 AMP FUSE at the distribution board.



21 pin connector (⇨1 ⇔2/⇔4)





Pin No	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level : 0.5Vrms Output impedance : Less than 1kohm *
2	○	○	Audio input B (right)	Standard level : 0.5Vrms Input impedance : More than 10kohms *
3	○	○	Audio output A (left)	Standard level : 0.5Vrms Output impedance : Less than 1kohm *
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level : 0.5Vrms Input impedance : More than 10kohms *
7	○	●	Blue input	0.7 ± 3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5 – 12V) : Part mode Low state (0 – 2V) : TV mode Input impedance : More than 10kohms Input capacitance : Less than 2nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal : 0.7V ± 3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	–	Red input	0.7V ± 3dB, 75ohms, positive
	–	○	(S signal) croma input	0.3V ± 3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1 – 3V) Low state (0 – 0.4V) Input impedance : 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V ± 3dB, 75ohms, positive Sync : 0.3V (– 3, + 10dB)
20	○	–	Video input	1V ± 3dB, 75ohms, positive Sync : 0.3V (– 3, + 10dB)
	–	○	Video Input/Y (S signal)	1V ± 3dB, 75ohms, positive Sync : 0.3V (– 3, + 10dB)
21	○	○	Common ground (plug, shield)	

○ Connected ●unconnected (open) * at 20Hz – 20kHz

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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND, IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

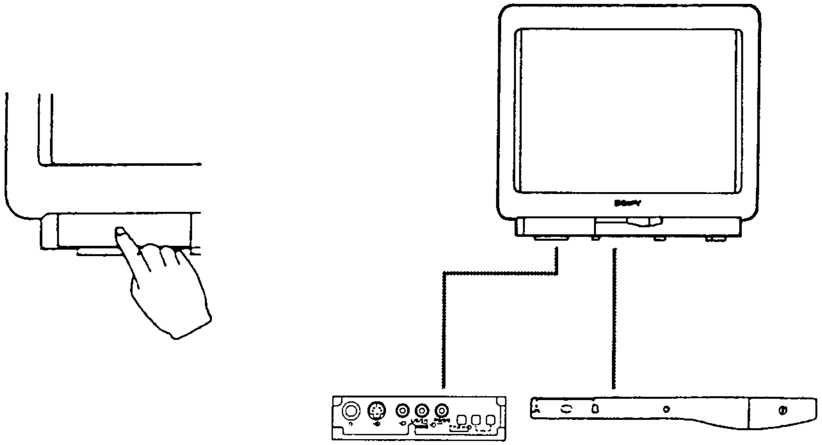
SECTION 1
GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

1-1. OVERVIEW

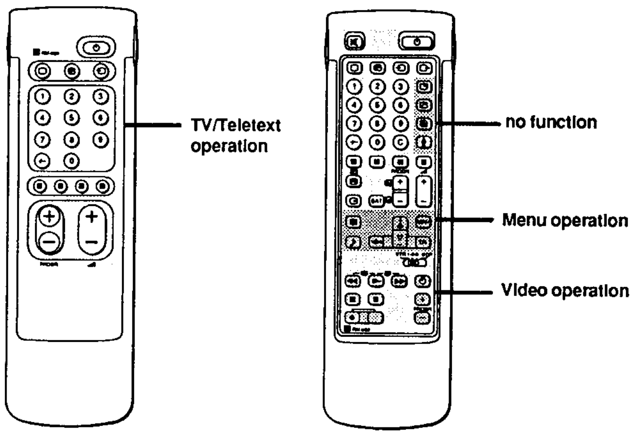
This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information, refer to the pages given next to each description.

TV set-front



Symbol		Name	Refer to page
⏼	4.6	Main power switch	13
⏻	4.7	Standby indicator	13
A-ↀ-B	4.8	Stereo A/B indicators	15
∩	4.9	Headphones jack	20
-Ⓢ, -⊖, -⊙,	4.10	Input jacks (S video/video/audio)	20
P→⊿→⊖	4.11	Function selector (Programme/volume/input)	14
–/+	4.13	Adjustment buttons for function selector	14

Remote Commander RM-830



A)Note
The SAT button does not operate with this TV.

B) Simple side

C) Full-Function side

TV/Teletext operation

Symbol	Name	Refer to page
◀✕	Muting on/off button	14
⏻	Standby button	13
○	TV power on/TV mode selector button	13
⊜	Teletext button	14
-⊖	Input mode selector	14
⊖-	Output mode selector	21
1,2,3,4,5,6, 7,8,9,and 0	Number buttons	13
-/--	Double-digit entering button	13
C	Direct channel entering button	10
⊿+/–	Volume control button	13
PROGR+/–	Programme selectors	13
⊞⊟	Teletext page access buttons	17
●	Picture adjustment button	15
♪	Sound adjustment button	15
⊕	On-screen display button	14
⊕	Teletext hold button	17
◎	Time display button	14
■■■■	Fastext TOP-text buttons	17

Menu operation

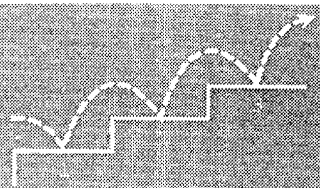
Symbol	Name	Refer to page
MENU	Menu on/off button	7
△+/▽–	Select buttons	7
OK	OK (confirming) button	7
←	Back button	7

Video operation

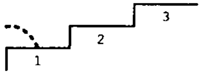
Symbol	Name	Refer to page
VTR1/2/3, MDP	Video equipment selector	22
◀◀ ▶ ▶▶ ■ ▮▮ ● ⏻ PROGR +/–	Video equipment operation buttons	22

Note:
The buttons ◔, ↑, ⊘, ⊕ do not operate with this TV.

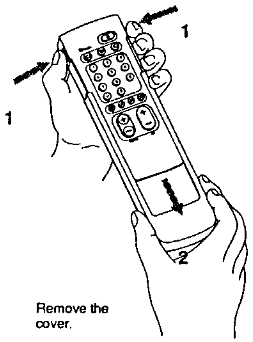
Getting Started



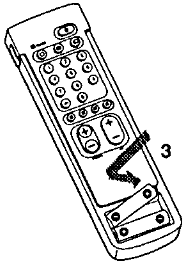
1-2. STEP 1 PREPARATION



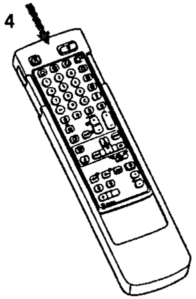
Insert the batteries into the Remote Commander



Remove the cover.



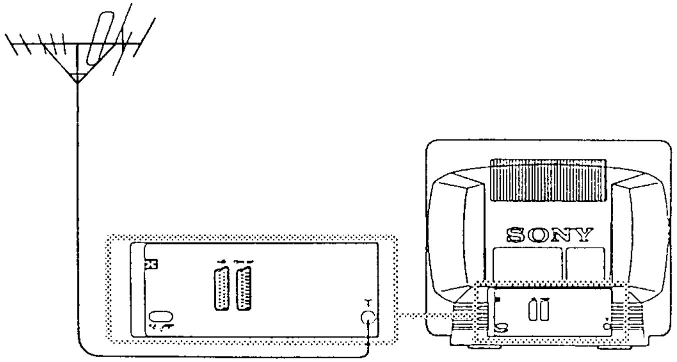
Check the correct polarities.



Refit the outside cover making sure that the Full-Function side is visible to use the menu in Step 3.

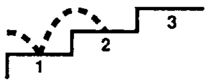
1-3. STEP 2 CONNECTION

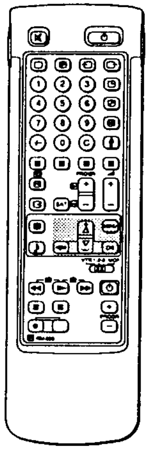
Connect the aerial



Fit an IEC aerial connector attached to 75-ohm coaxial cable (not supplied) to the ⫪ socket at the rear of the TV.
Make sure to use an aerial cable, which corresponds to the relevant regulations.

1-4. STEP 3 TUNING IN TO TV STATIONS



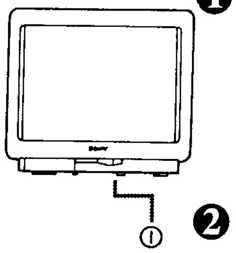


Once you have set up the TV, you can choose the language of the menu. Then you should preset the channels (up to 100 channels) by choosing either the automatic or manual method.

The automatic method is easier if you want to preset all receivable channels at once. Use the manuel method if you only have a few channels and want to preset channels one by one. The manual method is also convenient for allocating programme numbers to various video input sources.

Before you begin

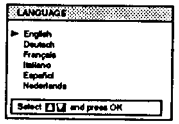
- Check that the Full-Function side of the Remote Commander is visible.
- Locate Menu operation buttons on the Remote Commander. They are shaded in the illustration at the left.



❶ Choose a language

1 Depress ⏻ on the TV.
The TV will switch on. If the standby indicator on the TV is lit, press ○ or a number button on the Remote Commander.
2 Press MENU.
The LANGUAGE menu appears (see Fig. 1).
3 Select the language you want with △+ or ▽− and press OK.

MENU



LANGUAGE

► English
Deutsch
Français
Italiano
Español
Nederlands

Select △ ▽ and press OK

Fig. 1.

❷ Display the Menu

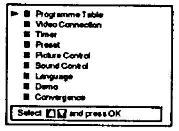
Press the ⬅ button.
The main menu appears (see Fig.2).
Now, choose one of the following methods
«Preset Channels automatically»
or
«Preset Channels manually».

To go back to main menu
Keep pressing ⬅.

To go back to the normal TV picture
Press MENU.

Note on the DEMO function
If you choose «Demo» on the main menu, you can see a sequential demonstration on the menu functions.
Press MENU to stop the function.

△ ▽ OK



► ■ Programme Table
■ Video Connection
■ Timer
■ Preset
■ Picture Control
■ Sound Control
■ Language
■ Demo
■ Convergence

Select △ ▽ and press OK

Fig. 2.

With this method, you can preset all receivable channels at once.

To stop automatic channel presetting
Press ← on the Remote Commander.

Notes
- After presetting the channels automatically, you can check which channels are stored on which programme positions. For details, see »Using the Programme Table« on page 16.
- You can exchange the programme positions to have them appear on screen in the order you like. For details, see »Exchanging Programme Positions« on page 10.

❸

Preset channels automatically

1 Select »Preset« with △+ or ▽− and press OK.
The PRESET menu appears. (See Fig.3.)

2 Select »Auto Programme« with △+ or ▽− and press OK.
The AUTO PROGRAMME menu appears. (See Fig.4.)

3 Press OK.
Press OK repeatedly until the first element of the "PROG" number is highlighted.

4 Select the programme (number button) from which you want to start presetting. Select the first element of the double-digit number with △+ or ▽− or the number buttons (e.g. For »04«, select »0« here) and press OK.
The second element of »PROG« will be highlighted.

5 Select the second element of the double-digit number with △+ or ▽− or the number buttons (e.g. For »04«, select »4« here) (See Fig. 5.) and press OK.

6 The automatic channel presetting starts.
When presetting is finished, the PRESET menu reappears.
All available channels are now stored on successive number buttons.

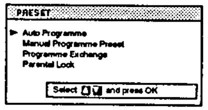
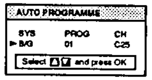
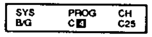


Fig. 3.



SYS	PROG	CH
► B/G	01	C25

Fig. 4.



SYS	PROG	CH
B/G	C4	C25

Fig. 5.

Use this method if there are only a few channels in your area to preset or if you want to preset channels one by one. You may also allocate programme numbers to various video input sources.

If you have made a mistake
Press ← to go back to the previous position.
To go back to main menu
Keep pressing ←.
To go back to the normal TV picture
Press MENU.

❸

Preset channels manually

1 Select »Preset« with △+ or ▽− and press OK.
The PRESET menu appears. (See Fig.6.)

2 Select »Manual Programme Preset« with △+ or ▽− and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 7.)

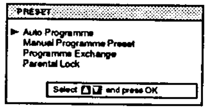
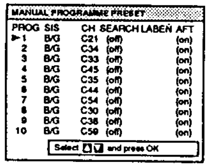


Fig. 6.



PROG	SIS	CH	SEARCH	LABEN	AFT
► 1	B/G	C21	(off)		(on)
2	B/G	C34	(off)		(on)
3	B/G	C33	(off)		(on)
4	B/G	C45	(off)		(on)
5	B/G	C35	(off)		(on)
6	B/G	C44	(off)		(on)
7	B/G	C54	(off)		(on)
8	B/G	C30	(off)		(on)
9	B/G	C38	(off)		(on)
10	B/G	C59	(off)		(on)

Fig. 7.

To tune in a channel by frequency
After selecting F in step 6, enter three digits using the number buttons.
Press OK.

Please refer to "Television channel Number Guide" on page 25.

If you have made a mistake
Press ← to go back to the previous position.

To go back to main menu
Keep pressing ←.

To go back to the normal TV picture
Press MENU.

3 Using △+ or ▽−, select the programme position (number button) to which you want to preset a channel, and press OK.

4 Keep pressing ▽ − to select programme numbers higher than 10.

5 Select, if necessary, a video input source (EXT) with ▽ + or ▽ −. Then press OK. The first element of the CH position will be highlighted. (See Fig. 8)

6 Using △+ or ▽−, select C (to preset a regular channel), or F (to tune in by frequency) and press OK.
The first element of the »CH« number will be highlighted.
If you have selected EXT in step 4, select the video input source with △+ or ▽−. (See Fig. 9).

There are two ways to preset channels. If you know the channel number, go to step »7-Manual«,
or
if you don't know the channel number, go to step »7-Search«.

7 *Manual*
-a Select the first element of the »CH« number with △+ / ▽− or the number buttons and press OK.
The second element of the »CH« number will be highlighted.

-b Select the second element of the number with △+ / ▽− or the number buttons.
The selected number appears. (See Fig. 10.).

-c Press OK.
The »SEARCH« position is highlighted and the selected channel is noe stored. (See Fig. 11.).

-d Press OK until the cursor appears by the next programme position.
-e Repeat steps 3 to 7 to preset other channels.

7 *Search*
-a Press OK repeatedly until the colour of the SEARCH position changes.

-b Start searching for the channel with △+ (up) or ▽− (down).
The CH position changes colour. (See Fig. 12.).
The CH number starts counting up or downwards. When a channel is found, it stops. (See Fig. 13).

-c Press OK if you want to store this channel. If not, press △+ or ▽− to continue channel searching.

-d Press OK until the cursor appears by the next programme position.

-e Repeat steps 3 to 7 to preset other channels.

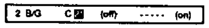

2 B/G C▮ (off) ----- (on)

Fig. 8.

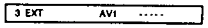

3 EXT AV1 -----

Fig. 9.

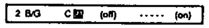

2 B/G C▮ (off) ----- (on)

Fig. 10.

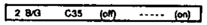

2 B/G C35 (off) ----- (on)

Fig. 11.

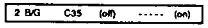

2 B/G C35 (off) ----- (on)

Fig. 12.

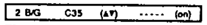
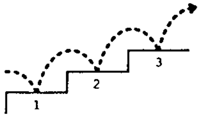

2 B/G C35 (▲▼) ----- (on)

Fig. 13.

1-5. ADDITIONAL PRESETTING FUNCTIONS

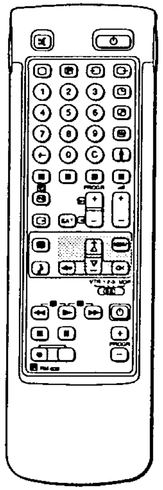


This section shows you additional presetting functions such as exchanging or skipping programme positions, captioning a station name, manual fine-tuning, and using the parental lock.

Before you begin

- Check that the Full Function side of the Remote Commander is visible.
- Locate the Menu operation buttons.

PROGRAMME EXCHANGE



Exchanging Programme Positions

With this function, you can exchange the programme positions to a preferable order.

1 Press MENU to display the main menu.

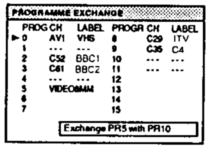
2 Select "Preset" with △+ or ▽− and press OK.
The PRESET menu appears.

3 Select "Programme Exchange" with △+ or ▽− and press OK.
The PROGRAMME EXCHANGE menu appears.(See Fig. 14.)

4 Using △+ or ▽−, select the programme position you want to exchange with another and press OK.
The colour of the selected position changes. (See Fig. 15.)

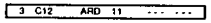
5 Using △+ or ▽−, select the programme position to be exchanged and press OK. Now the two programme positions have been exchanged. (See Fig. 16.)

6 Repeat steps 4 and 5 to exchange other programme positions.



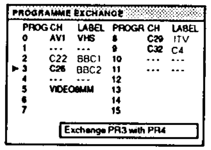
```
PROGRAMME EXCHANGE
  PROG CH    LABEL  PROGR CH   LABEL
► 0    AV1   VHS    8     C29  ITV
  1    ---   ---    9     C35  C4
  2    C52   BBC1   10    ---  ---
  3    C61   BBC2   11    ---  ---
  4    ---   ---    12
  5    VIDEO8MM     13
  6                 14
  7                 15
             Exchange PR5 with PR10
```

Fig. 14.



```
3   C12       ARD   11      ---  ---
```

Fig. 15.



```
PROGRAMME EXCHANGE
  PROG CH    LABEL  PROGR CH   LABEL
  0    AV1   VHS    8     C29  ITV
  1    ---   ---    9     C32  C4
  2    C22   BBC1   10    ---  ---
► 3    C26   BBC2   11    ---  ---
  4    ---   ---    12
  5    VIDEO8MM     13
  6                 14
  7                 15
             Exchange PR3 with PR4
```

Fig. 16.

Tuning in a Channel Temporarily

You can tune in to a channel temporarily, even when it has not been preset. Use the buttons on the Full-Function side of the Remote Commander.

1 Press C on the Remote Commander. For cable channels, press C twice.
The indication »C« (»S« for cable channels) appears on the screen.

2 Enter the double-digit channel number using the number buttons (e.g. for channel 4, first press 0, then 4).
The channel appears.
However, the channel will not be stored.

For higher programme positions
The display scrolls automatically.

If you have made a mistake
Press ← to go back to the previous position

To go back to main menu
Keep pressing ←.

To go back to the normal TV picture
Press MENU.

MANUAL PROGRAMME PRESET

Skipping Programme Positions

You can skip unused programme positions when selecting programmes with the PROGR +/− buttons. However, the skipped programmes may still be called up when you use the number buttons.

1 Press MENU to display the main menu.

2 Select »Preset« with △+ or ▽− and press OK.
The PRESET menu appears.

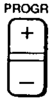
3 Select »Manual Programme Preset« with △+ or ▽− and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig.17.)

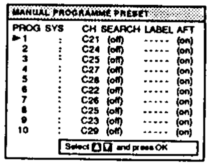
4 Using △+ or ▽−, select the programme position which you want to skip and press OK.
The »SYS« position changes colour.

5 Press △+ or ▽− until »-----« appears in the SYSTEM position. (See Fig. 18.)

6 Press OK. (See Fig. 19.)
When you select programmes using the PROGR+/− buttons, the programme position will be skipped.

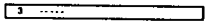
7 Repeat steps 4 to 6 to skip other programme positions.





```
MANUAL PROGRAMME PRESET
PROG  SYS    CH   SEARCH  LABEL  AFT
►1     :     C21  (off)   -----  (on)
 2     :     C24  (off)   -----  (on)
 3     :     C25  (off)   -----  (on)
 4     :     C27  (off)   -----  (on)
 5     :     C28  (off)   -----  (on)
 6     :     C22  (off)   -----  (on)
 7     :     C26  (off)   -----  (on)
 8     :     C25  (off)   -----  (on)
 9     :     C23  (off)   -----  (on)
10     :     C29  (off)   -----  (on)
       Select △ ▽ and press OK
```

Fig. 17.



```
3   -----
```

Fig. 18.

```
 3   -----
►4      :
```

Fig. 19.

MANUAL PROGRAMME PRESET

Captioning a Station Name

You can »name« a channel or an input video source using up to five characters (letters or numbers) to be displayed on the TV screen (e.g. BBC1). Using this function, you can easily identify which channel or video source you are watching.

1 Press MENU to display the main menu.

2 Select »Preset« with △+ or ▽− and press OK.
The PRESET menu appears.

3 Select »Manual Programme Preset« with △+ or ▽− and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 20.)

4 Using △+ or ▽−, select the programme position you want to caption and press OK repeatedly until the first element of the LABEL position is highlighted.

5 Select a letter or number with △+ or ▽− and press OK.
The next element will be highlighted.
Select other characters in the same way. If you want to leave an element blank, select – and press OK. (See Fig. 21.)

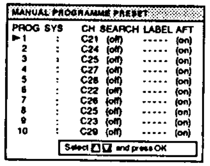
6 After selecting all the characters, press OK repeatedly until the cursor appears by the next programme position (at the left margin).
Now the caption you chose is stored. (See Fig. 22.)

7 Repeat steps 5 and 6 to caption names for other channels.

If you have made a mistake
Press ← to go back to the previous position.

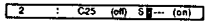
To go back to main menu
Keep pressing ←.

To go back to the normal TV picture
Press MENU.



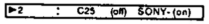
```
MANUAL PROGRAMME PRESET
PROG  SYS    CH   SEARCH  LABEL  AFT
►1     :     C21  (off)   -----  (on)
 2     :     C24  (off)   -----  (on)
 3     :     C25  (off)   -----  (on)
 4     :     C27  (off)   -----  (on)
 5     :     C28  (off)   -----  (on)
 6     :     C22  (off)   -----  (on)
 7     :     C26  (off)   -----  (on)
 8     :     C25  (off)   -----  (on)
 9     :     C23  (off)   -----  (on)
10     :     C29  (off)   -----  (on)
       Select △ ▽ and press OK
```

Fig. 20.



```
2     :     C25   (off)   S▮---  (on)
```

Fig. 21.



```
►2    :     C25   (off)   SONY-  (on)
```

Fig. 22.

MANUAL PROGRAMME PRESET

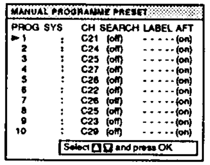
Manual Fine-Tuning

Normally, the AFT (automatic fine-tuning) is already operating. However, if the picture is distorted, you can use the manual fine tuning function to obtain better picture reception.

Manually fine tuned channels will be identified by ←F→ on the on screen indication (See page 15)

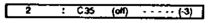
1 Press MENU to display the main menu.
2 Select »Preset« with △+ or ▽− and press OK.
The PRESET menu appears.
3 Select »Manual Programme Preset« with △+ or ▽− and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 23.)
4 Using △+ or ▽−, select the programme position corresponding to the channel which you want to manually fine-tune, and press OK repeatedly until the AFT position changes colour.
5 Fine-tune the channel with △+ or ▽− so that you get the best TV reception. As you press the cursor buttons, the frequency changes from − 15 to + 15. (See Fig. 24.)
6 After fine tuning, press OK.
The cursor appears beside the next programme position (at the left margin). (See Fig. 25.) Now the fine-tuned level is stored.
7 Repeat steps 4 to 6 to fine-tune other channels.

To reactivate AFT (automatic fine tuning).
Repeat from the beginning and select »ON« in step 5.



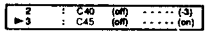
```
MANUAL PROGRAMME PRESET
PROG SYS     CH  SEARCH LABEL AFT
►1       :   C21  (off)   - - - - - (on)
 2       :   C24  (off)   - - - - - (on)
 3       :   C25  (off)   - - - - - (on)
 4       :   C27  (off)   - - - - - (on)
 5       :   C28  (off)   - - - - - (on)
 6       :   C22  (off)   - - - - - (on)
 7       :   C26  (off)   - - - - - (on)
 8       :   C25  (off)   - - - - - (on)
 9       :   C23  (off)   - - - - - (on)
10       :   C29  (off)   - - - - - (on)
              Select △ ▽ and press OK
```

Fig. 23.



```
 2       :   C35      (off)     - - - - - (-3)
```

Fig. 24.



```
 2       :   C40      (off)     - - - - - (-3)
►3       :   C45      (off)     - - - - - (on)
```

Fig. 25.

PARENTAL LOCK

Parental Lock

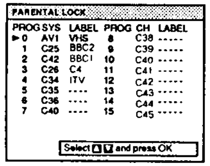
You can prevent undesirable broadcasts from appearing on the screen. We suggest you use this function to prevent children from watching programmes which you consider unsuitable.

1 Press MENU to display the main menu.
2 Select "Preset" with △+ or ▽− and press OK.
The PRESET menu appears.
3 Select "Parental Lock" with △+ or ▽− and press OK.
The PARENTAL LOCK menu appears. (See Fig. 26.)
4 Using △+ or ▽−, select the programme position you want to block and press OK.
The CH and LABEL change colour indicating that this programme is now blocked. (See Fig. 27.)
5 Repeat step 4 to block other programme positions.

If you try to select a programme that has been blocked
The message »LOCKED« appears on the blank TV screen.

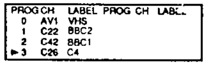
Cancelling blocking

1 On the PARENTAL LOCK menu, select the programme position you want to unblock with △+ or ▽−.
2 Press OK.
The selected PROG number, CH and LABEL change colour to normal colour indicating that the blocking has been cancelled.



```
PARENTAL LOCK
PROG SYS   LABEL  PROG  CH   LABEL
►0   AV1   VHS     8    C38  -----
 1   C25   BBC2    9    C39  -----
 2   C42   BBC1   10    C40  -----
 3   C26   C4     11    C41  -----
 4   C34   ITV    12    C42  -----
 5   C35   ----   13    C43  -----
 6   C36   ----   14    C44  -----
 7   C40   ----   15    C45  -----
            Select △ ▽ and press OK
```

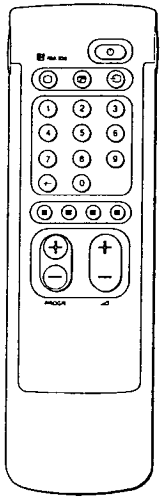
Fig. 26.



```
PROG CH    LABEL  PROG  CH   LABEL
 0   AV1   VHS
 1   C22   BBC2
 2   C42   BBC1
►3   C26   C4
```

Fig. 27.

1-6. WATCHING THE TV



If no picture appears when you depress ⏻ on the TV
and if the standby indicator on the TV is lit, the TV is in standby mode. Press ▢ or one of the number buttons to switch it on.

This section explains the basic functions you use while watching TV. Most of the operations can be done using the simple side of the Remote Commander.

Switching the TV on and off

Switching on

Depress ⏻ on the TV.

Switching off temporarily

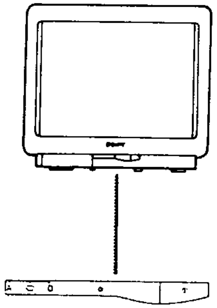
Press ⏻ on the Remote Commander.
The TV enters standby mode and the standby indicator on the front of the TV lights up.

To switch on again

Press ▢, PROGR +/−, or one of the number buttons on the Remote Commander.

Switching off completely

Depress ⏻ on the TV.



Selecting TV Programmes

Press PROGR +/− or press the number buttons.

To select a double-digit number

Press -/--, then the numbers.
For example, If you want to choose 23, press -/--, 2, and 3.

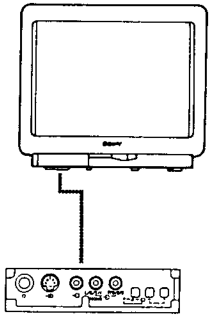
Adjusting the Volume

Press ⊿ +/−.

Operating the TV Using the Buttons on the TV

With the buttons on the TV, you can select programmes, adjust the volume, and select video input sources.

- Press the P→◿→⊕ button repeatedly until the programme number, ◿ (for volume), or ⊕ (for video input picture) appears. Then adjust with the –/+ buttons.
- Press –/+ buttons to switch on the TV from the standby mode.
- Press –/+ simultaneously to reset picture and sound controls to the factory preset level (RESET function).



Watching Teletext or Video Input

For details of the teletext operation, refer to page 17.

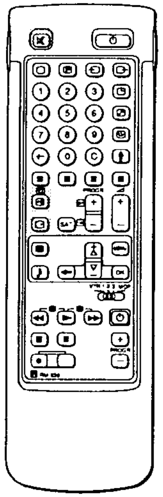
Watching teletext

- Press ⊜ to view the teletext.
- Press three number buttons to select a page.
- Press one of the coloured buttons for fastext or TOP-Text operation.
- Press ⊕ (PAGE +) or ⊖ (PAGE –) for the next or preceeding page.
- To go back to the normal TV picture, press ○ .

For details of the video input picture, refer to page 21.

Watching a video input picture

Press ⊕ repeatedly until the desired video input appears. To go back to the normal TV picture, press ○.



More Convenient Functions

Use the Full-Function side of the Remote Commander.

Displaying the on screen indications

- Press ⊕ once to display all the indications. They will disappear after some seconds.
- Press ⊕ twice to have the programme number and label stay on screen. Press twice again to make the indications disappear.

Muting the sound

Press 🔇.

To resume normal sound, press 🔇 again.

Displaying the time

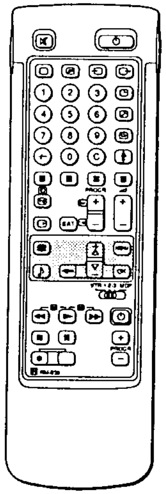
Press ◎. This function is available only when teletext is broadcast.

To make the time display disappear, press ◎ again.

1-7. ADJUSTING AND SETTING THE TV USING THE MENU

PICTURE CONTROL

SOUND CONTROL



If you have made a mistake
Press ⬅ to go back to the previous position.

To go back to the main menu
Keep pressing ⬅.

To go back to the normal TV picture
Press MENU.

Note
HUE is only available for NTSC colour systems.

Note on LINE OUT
The audio level and the dual sound mode output from the ⊖ jack on the rear correspond to the Headphone VOLUME and DUAL SOUND settings.

When watching a video input picture
You can select DUAL SOUND to change the sound.

Adjusting the Picture and Sound

Although the picture and sound are adjusted at the factory, you can adjust them to suit your own taste. In addition, you can change the aspect ratio of the TV display for wide screen effect or set the resolution to obtain a higher quality picture. You can also select dual sound (bilingual) programmes when available or adjust the sound for listening with the headphones.

1 Press ● (for picture) or ♪ (for sound) on the remote Commander.

or

Press MENU and select »Picture Control« or »Sound Control«, then press OK.
The PICTURE CONTROL or SOUND CONTROL menu appears. (See Fig. 28 or Fig. 29.)

2 Using △+ or ▽–, select the item you want to adjust and press OK. The selected item changes colour. (See Fig. 30.)

3 Adjust the setting with △+ or ▽– and press OK.
The cursor appears beside the next item (at the left margin). (See Fig. 31.)
For the effect of each control, see the table below.

4 Repeat steps 2 and 3 to adjust other items.

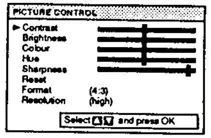


Fig. 28.

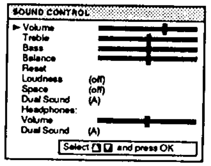


Fig. 29.

Brightness

Fig. 30.

Brightness
► Colour

Flig. 31.

Effect of each control

PICTURE CONTROL	Effect	
Contrast	Less ——┼—— More	
Brightness	Darker ——┼—— Brighter	
Colour	Less ——┼—— More	
Hue	Greenish ——┼—— Reddish	
Sharpness	Softer ——┼—— Sharper	
Reset	Resets picture to the factory preset levels.	
Format	4 : 3 : Normal	16 : 9 : Wide screen effect
Resolution	Normal	high : Obtain a higher quality picture

SOUND CONTROL	Effect	
Volume	Less —┼— More	
Treble	Less —┼— More	
Bass	Less —┼— More	
Balance	More left —┼— More right	
Reset	Resets sound to the factory preset levels.	
Loudness	off: Normal	on: When listening to low volume sound.
Space	off: Normal	on: Obtain acoustic sound effect.
Dual Sound	A: left channel	B: right: channel Stereo mono
	The selected mode of the A-Ⓓ-B Indicator on the TV lights up (for NICAM broadcasts see next page)	
Headphones :		
Volume	Less —┼— More	
Dual Sound	A: left channel	B: right channel stereo mono

1-8. TELETEXT

*Selecting Nicam Broadcasts**

This Sony TV has been designed to select Nicam broadcasts when available. Whenever a Nicam broadcast is received »NICAM« appears briefly on the screen. When the Nicam programme ends, or you switch channels to one without Nicam, the A-ⅭⅮ-B indicators, on the TV will switch off.

Nicam programmes can be broadcast in two ways. You may select the sound you want to hear in either of these by first following the instructions explained on page 16.

Service Being Broadcast	Action	Effect	Indication on the TV A-ⅭⅮ-B	
Stereo	Press △+ or ▽–	Stereo Nicam (Mono 2-Channel) mono	✹ ▭	✹ ▭
Press △+ or ▽– again to return to stereo Nicam (mono 2-channel)				
Bilingual	Press △+ or ▽–	Channel A Nicam Channel B Nicam mono	✹ ▭ ▭	▭ ✹ ▭
Press △+ or ▽– again to return to channel A Nicam				

* Depending on availability of service.

PROGRAMME TABLE

To go back to the normal TV picture`
Press MENU.

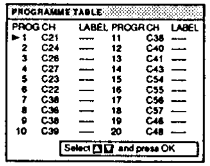
Using the Programme Table

On this table, you can see which channel is preset to which programme position. You can also select programmes using this table.

From the main menu, select »Programme Table« with △+ or ▽– and press OK.
The PROGRAMME TABLE menu appears. (See Fig. 32.)

To scroll to higher programme numbers, press △ –.

To select a programme using this menu
Select the programme number with △+ or ▽– and press OK.
The selected programme appears.



PROGRAMME TABLE

PROG	CH	LABEL	PROGR	CH	LABEL
► 1	C21	—	11	C38	—
2	C24	—	12	C40	—
3	C26	—	13	C41	—
4	C27	—	14	C43	—
5	C23	—	15	C54	—
6	C22	—	16	C55	—
7	C38	—	17	C56	—
8	C36	—	18	C57	—
9	C38	—	19	C46	—
10	C39	—	20	C48	—

Fig. 32.

TIMER

To switch off the timer
Select »OFF« in step 3.

To check the remaining time
Press ⊙.

Using the Sleep Timer

You can select a time period after which the TV automatically switches into standby mode.

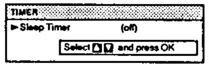
1 From the main menu, select »Timer« with △+ or ▽– and press OK.
The TIMER menu appears. (See Fig. 33.)

2 Press OK.
The time period option changes colour.

3 Select the time period with △+ or ▽–.
The time period (in minutes) changes as follows:

10 → 20 → 30 → 40 → 50 → 60 → 70 → 80 → 90
↑______ OFF ______↲

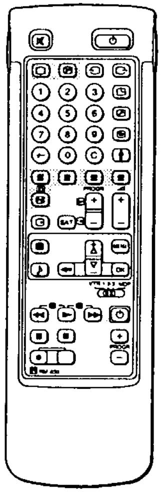
4 After selecting the time period, press OK.
The cursor moves back to the left margin and the timer starts counting.
One minute before the TV switches into standby mode, a message is displayed on the screen.



TIMER

► Sleep Timer (off)

Fig. 33.



TV stations broadcast an information service called Teletext via the TV channels.Teletext service allows you to receive various information pages such as weather reports or news at any time you want. For advanced teletext operation, use the buttons on the Full-Function side of the Remote Commander.

Direct Access Functions

Switching Teletext on and off

1 Select the TV channel which carries the teletext broadcast you want to watch.

2 Press ⊜ to switch on teletext.
A teletext page will be displayed (usually the index page).
If there is no teletext broadcast, P100 is displayed on the information line at the top of the screen.

To switch teletext off

Press ○.

Note
Teletext errors may occur if the broadcasting signals are weak.

With the simple side of the Remote Commander
You can switch teletext on and off, operate Fastext, and directly select page numbers.

Selecting a teletext page

With direct page selection

Use the number buttons to input the three digits of the chosen page number.
If you have made a mistake, type in any three digits. Then re-enter the correct page number.
If the page counter keeps searching,
the page number might not be available.

With page-catching

1 Select a teletext page with a page overview (e.g. index page).

2 Press ⊕ twice. »Page catching« will be displayed on the information line. The last digit of the first displayed page number flashes.

3 Using △+ or ▽–, select the desired page and press OK.
The requested page will appear in a few seconds.

Accessing next or preceding page

Press ⊖ (PAGE+) or ⊖ (PAGE-).
The next or preceding page appears.

Superimposing the teletext display on the TV programme

- Press ⊜ once in teletext mode or twice in TV mode.
- Press ⊜ again to resume normal teletext reception.

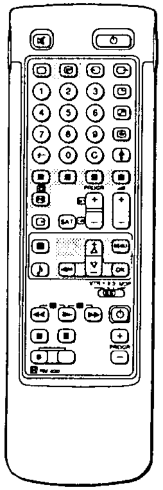
Preventing a teletext page from being updated

- Press ⊕ (HOLD). The HOLD symbol "⊕" is displayed on the information line.
- Press ⊜ to resume normal teletext reception.

Note
Fastext operation is only possible, if the TV station broadcasts Fastext signals.

Using Fastext

With Fastext you can access pages with one key stroke.
When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons on the Remote Commander.
Press the corresponding coloured button on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed after a few seconds.



Using the Teletext Menu

This TV is provided with a menu-guided teletext system. When teletext is switched in, you can use the menu buttons to operate the teletext menu. Select the teletext menu functions in the following way:

1 Press MENU. The menu will be superimposed on the teletext display. (See Fig. 34.)

2 Using Δ+ or ∇−, select the teletext function you want and press OK. (See Fig. 35.)

USER PAGES/PRESET USER PAGES

See page 19 for information about presetting and operating the user pages.

INDEX

The index will give you an overview of the contents of the teletext and the page numbers.

TOP/BOTTOM/FULL

For convenient reading of a teletext page, you can enlarge the teletext display. After having selected the function, an information line TOP/BOTTON/FULL will be displayed. (See Fig. 36.)

Press Δ+ for »Top« to enlarge the uper half, ∇− for »Bottom« to enlarge the lower one and OK for »Full« to resume the normal size.

Press ⊜ to resume normal teletext reception.

TEXT CLEAR

After having selected the function, you can watch a TV programme while waiting for a requested teletext page to be captured (The symbol change colour.) (See page Fig. 37)

Press ⊟ to view the captured page.

SUBTITLES

Your teletext service will inform you if a TV programme is subtitled. After having selected the function the subtitles will be displayed.

REVEAL

Sometimes Pages contain concealed information, such as answers to a quiz. The reveal option lets you disclose the information. After having selected the function, an information line »REVEAL ON/OFF« will be displayed. (See Fig. 38.)

Using Δ+ or ∇−, select ON to reveal the information of OFF to conceal it again.

Press ⊜ to resume normal teletext reception.

TIME PAGE

This function is not available.

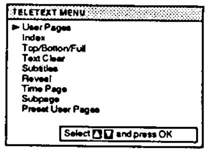


Fig. 34.

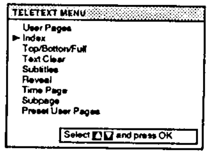


Fig. 35.

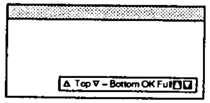


Fig. 36.

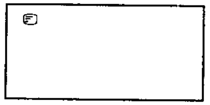


Fig. 37.

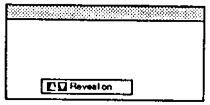


Fig. 38.

Note
Some of the features may not be available depending on the Teletext service.

Note on SUBTITLES
If the subtitles are not broadcast on page 888, please select the subtitle page using the number buttons.

To cancel the request
Select »OFF« for the TIME PAGE setting.

If two broadcasting stations use the same Teletext
You can preset one bank to 2 different programme positions.

SUBPAGE

You may want to select a particular teletext page from several subpages which are rotated automatically. If you want to select one subpage, follow the operations below.

Using ∇+ or ∇−, select the SUBPAGE setting and press OK.

To select the desired subpage, enter four digits using PAGE +/– or the number buttons (e.g. enter 0002 for the second page of a sequence).

User Page Bank System

You can store up to 30 pages in the »Teletext page bank system«. In this way you have quick access to the pages you watch frequently.

Storing pages

There are 5 »banks« (A to E) for 5 teletext stations. In each bank you can store 6 preferred pages (P1 to P6).

1 Press ⊜ (if Teletext is not on already) and MENU to show the TELETEXT MENU display.

2 Select PRESET USER PAGES with Δ+ or ∇− and press OK.

3 Select the desired bank with Δ+ or ∇− and press OK. The cursor will go to the first position (P1) of the preferred pages.

4 Input the three digits of your first preferred page with the number buttons and press OK.
The cursor will go to the second position.

5 Repeat step 4 for the other 5 page numbers you want to preset.
If you do not want to preset all 6 page numbers available, press OK without inserting any number.
After having finished the presetting press OK repeatedly until the cursor appears besides the next bank at the left margin.

6 Select »Allocate Bank« with Δ+ or ∇− and press OK.

7 Select the programme position for which you have preset pages with Δ+ or ∇− and press OK. (See Fig. 39.).

8 Select the desired bank with Δ+ or ∇− (Banks A to E are available) and press OK.

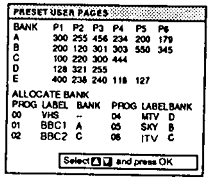
9 Repeat steps 3 to 8 for the other 4 banks available.

Displaying User Pages.

1 Select MENU.

2 Select USER PAGES with Δ+ or ∇− and press OK.
A table of the stored preferred pages will be displayed. (See Fig. 40.)

3 Select the desired page with Δ+ or ∇− and press OK. The page will be displayed after some seconds.



PRESET USER PAGES

BANK	P1	P2	P3	P4	P5	P6
A	300	255	456	234	200	179
B	200	120	301	303	550	345
C	100	220	300	444		
D	128	321	255			
E	400	238	240	118	127	

ALLOCATE BANK

PROG	LABEL	BANK	PROG	LABEL	BANK
00	VHS	–	04	MTV	D
01	BBC1	A	05	SKY	B
02	BBC2	C	06	ITV	C

Fig. 39.

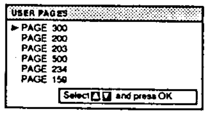


Fig. 40.

1-9. CONNECTING AND OPERATING OPTIONAL EQUIPMENT

Connecting Optional Equipment

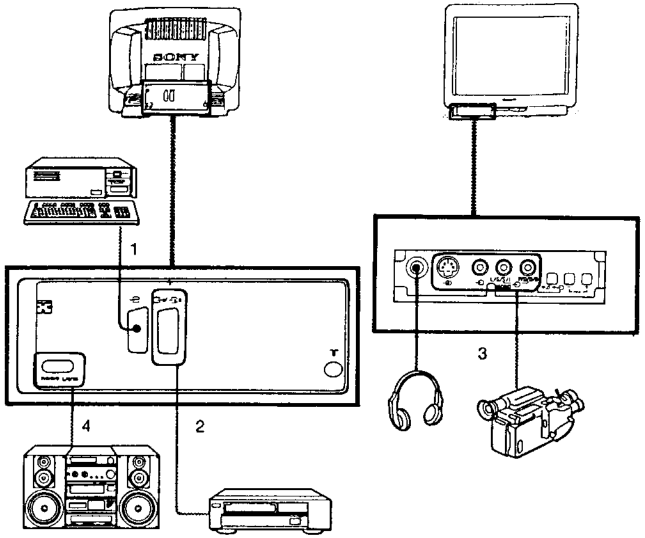
You can connect optional audio-video equipment to this TV such as a VTRs, video disc player, and stereo system.

To connect a VTR using the T terminal
Connect the serial output of the VTR to the aerial terminal T of the TV.

If the picture or the sound is distorted
Move the VTR away from the TV.

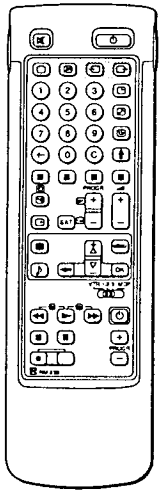
S video Input(Y/C input)
Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals.
Separating the Y and C signals prevents them from interfering with one another, and therefore improves picture quality (especially luminance).
This TV is equipped with 2 S Video input jacks through which these separated signals can be input directly.

When connecting a monaural VTR
Connect only the white -⊙ jack to both the TV and VTR.



Acceptable input signal	Available output signal
1 Normal audio/video and RGB signal	Video/audio from TV tuner
2 Normal audio/video and S video signal	Video/audio from selected source
3 Normal audio/video and S video signal	No outputs
4 No inputs	Audio signal (variable)

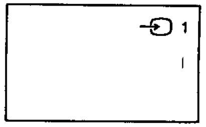
Selecting Input with PROGR +/– or number buttons
You can preset video input sources to the programme positions so that you can select them with PROGR +/– or number buttons. For details, see "Preset channels manually" on page 8.



Selecting input and output

This section explains how to view the video input picture (of a video source connected to your TV), and how to select the output signal using direct access buttons or the menu system.

Selecting Input



Press -⊙ repeatedly to select the input source.

The symbol of the selected input source will appear.

To go back to the normal TV picture

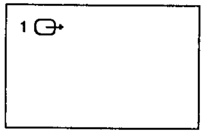
Press ○.

Input modes

Symbol	Input signal
-⊙ 1	Audio/video input through the -⊚ 1 connector
-⊚	RGB input through the -⊚ 1 connector
-⊙ 2	Audio/video input through the ⊙→ 2/ -Ⓢ 2 connector
-Ⓢ 2	S video input through the ⊙→ 2/ -Ⓢ 2 connector
-⊙ 3	Audio/video input through -⊙ 3 and -⊙ 3 on the front
-Ⓢ 3	S video input through the -Ⓢ 3 connectors on the front (4-pin connector)

You can also select the input mode using the P→⊿→⊙ and –/+ buttons on the TV. In this case, first select -⊙, and then press –/+ buttons to select the input.

Selecting the output



The ⊙→ 2 /-Ⓢ 2 connector outputs the source input from the other connectors.

Press ⊙→ repeatedly to select the output.

The symbol of the selected output source appears.

Output modes

Symbol	⊙→ 2/ -Ⓢ 2 connector outputs
1 ⊙→	The audio/video signal from the -⊚ 1 connector
2 ⊙→	The audio/video signal from the ⊙→2/ -Ⓢ connector
2 Ⓢ→	The audio/S video signal from the ⊙→2/ or -Ⓢ 2 connector
3 ⊙→	The audio/video signal from the -⊙ 3 and -⊙3 connectors
3 Ⓢ→	The audio/S video signal from the -Ⓢ 3 and -⊙ 3 connectors
TV⊙→	The audio/video signal from the T aerial terminal

Checking and selecting the input and output sources using the menu

You can display the menu to see which input sources are selected for the TV screen, and which output source is selected. You can also select them on the menu display.

1 Select »Video Connection« with △+ or ▽− and press OK. The VIDEO CONNECTION menu appears. (See Fig. 41.)
You can see which source is selected for the TV input and for the output. If you want to select the input and output on this menu, go on to the next step.

2 Select TV screen (input source for the TV screen), or Output (output source) with △+ or ▽− and press OK. One of the source items changes colour. (See Fig. 42.)

3 Select the desired source with △+ or ▽−. (See Fig. 43.)
For details about each source, see the table on page 21.

4 Press OK.
The selected source is confirmed, and the cursor appears. (See Fig. 44.)

5 Repeat steps 2 to 4 to select the source for other inputs or outputs.

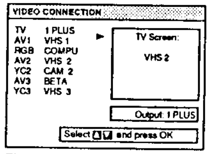

VIDEO CONNECTION
TV 1 PLUS
AV1 VHS 1
RGB COMPU
AV2 VHS 2
YC2 CAM 2
AV3 BETA
YC3 VHS 3
TV Screen:
VHS 2
Output: 1 PLUS
Select △▽ and press OK

Fig. 41.

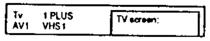

Tv 1 PLUS
AV1 VHS 1
TV screen:

Fig. 42.

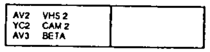

AV2 VHS 2
YC2 CAM 2
AV3 BETA

Fig. 43.

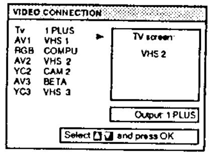

VIDEO CONNECTION
Tv 1 PLUS
AV1 VHS 1
RGB COMPU
AV2 VHS 2
YC2 CAM 2
AV3 BETA
YC3 VHS 3
TV screen:
VHS 2
Output: 1 PLUS
Select △▽ and press OK

Fig. 44.

Remote Control of Other Sony Equipment

You can use the TV Remote Commander to control most of Sony remote-controlled video equipment such as: Beta, 8 mm or VHS VTRs or video disc players.

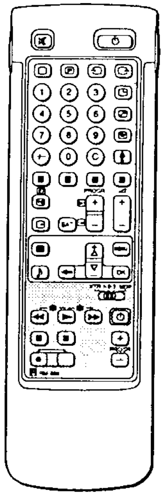
Tuning the Remote Commander to the equipment

1 Set the VTR 1/2/3 MDP selector according to the equipment you want to control:

VTR 1: Beta or ED Beta VTR
VTR 2: 8 mm VTR
VTR 3: VHS VTR
MDP : Video disc player

2 Use the buttons indicated in the illustration to operate the additional equipment.
If your video equipment is furnished with a COMMAND MODE selector, set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander.

If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.



When recording
when you use the ● (record) button, make sure to press this button and the one to the right of it simultaneously.

1-10. FOR YOUR INFORMATION

Troubleshooting

Here are some simple solutions to some problems which may affect the picture and sound.

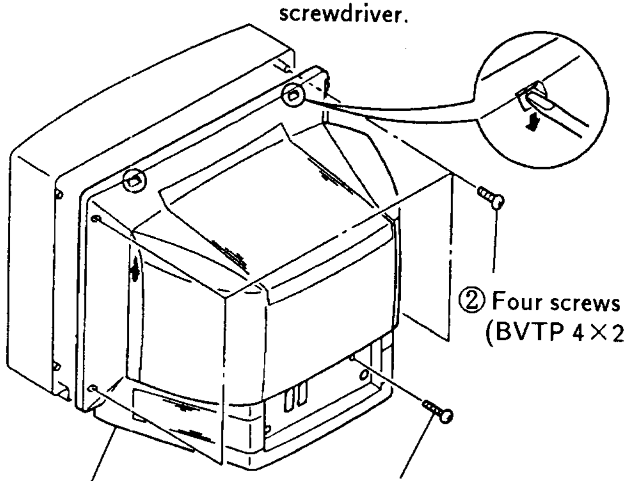
Problem		Solution
No picture (screen is dark), no sound		• Plug in the TV in. • Press ⓘ on the TV. (If ⏻ indicator is on, press ○ or a programme number on the Remote Commander). • Check the aerial connection. • Check if the selected video source is on. • Turn the TV off for 3 or 4 seconds and then turn it on again using ⓘ.
Poor or no picture (screen is dark), but good sound		• Press ● to enter the PICTURE CONTROL menu and adjust the »Brightness«, »Contrast« and »Colour«.
Good picture but no sound		• Press ⊿ +. • Check loudspeakers connection. • If 🔇 is displayed on the screen, press 🔇.
No colour for colour programmes	25.13	• Press ● to enter the PICTURE CONTROL menu, select »Reset«, then press OK.
Remote Commander does not function	25.15	• Replace batteries.

If you continue to have problems, have your TV serviced by qualified personnel. Never open the casing yourself.

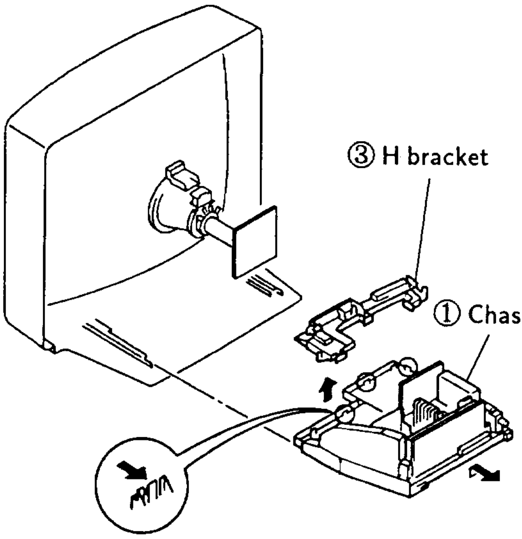
SECTION 2
DISASSEMBLY

2-1. REAR COVER REMOVAL

③ Remove two claws push diagonally from the above using a flat head screwdriver.

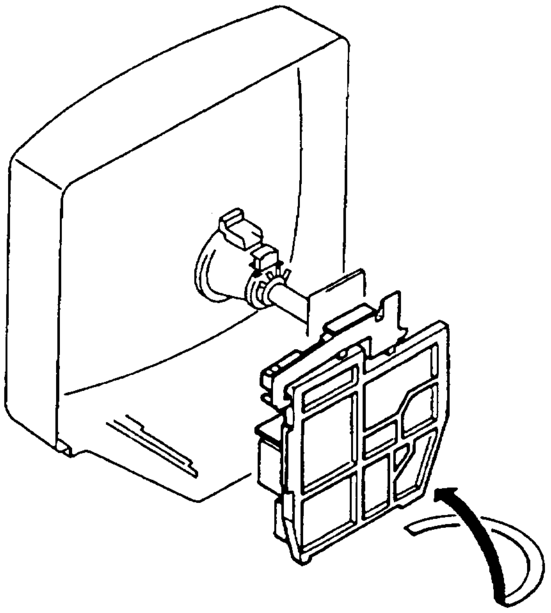

② Four screws
(BVTP 4×20)
① One screw
(BVTP 4×16)
④ Rear cover

2-2. CHASSIS ASSY REMOVAL


③ H bracket
① Chassis assy

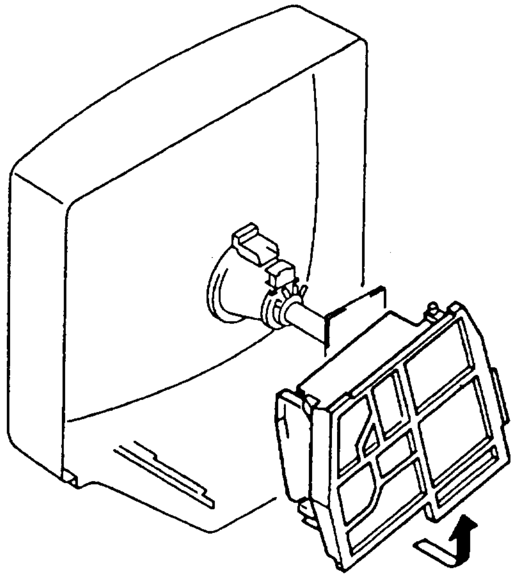
② Push the three claws of the main chassis in the direction of the arrow and remove the H bracket upwards.

2-3. SERVICE POSITION (1)

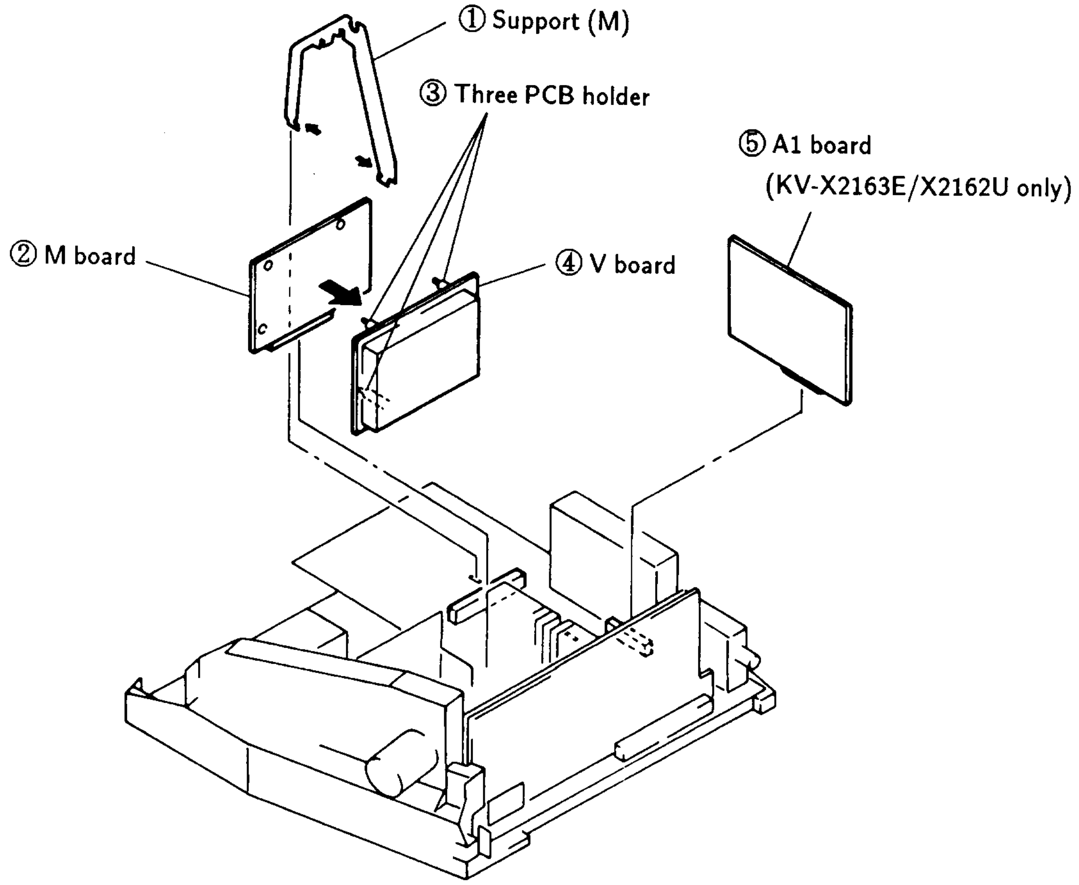


SERVICE POSITION (2)

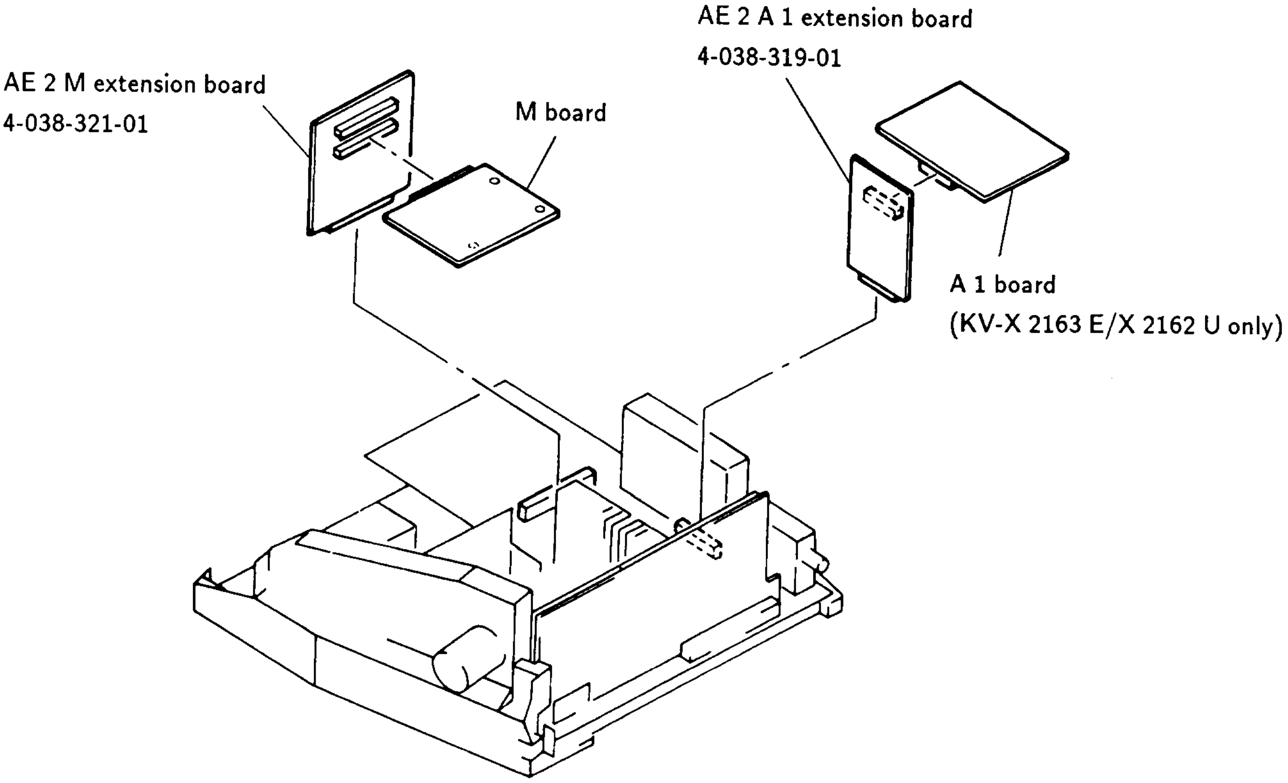
※ Remove the H bracket from the chassis assy and then perform the following servicing.
(Refer to 2-2. CHASSIS ASSY REMOVAL)



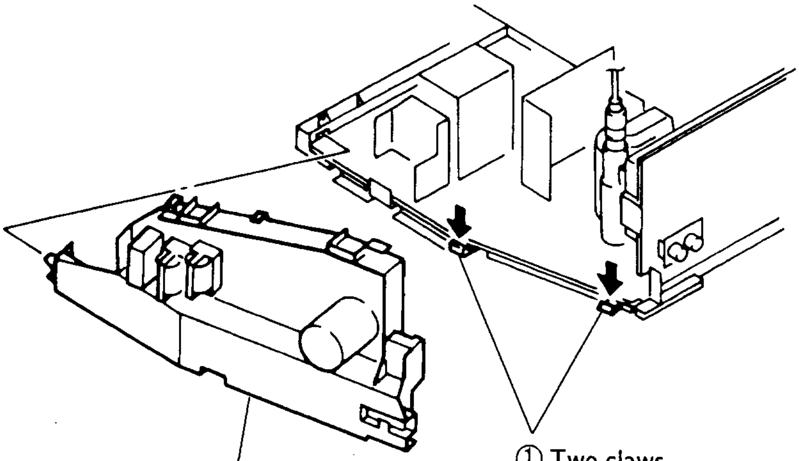
2-4. M, V AND A1 BOARDS REMOVAL


① Support (M)
③ Three PCB holder
⑤ A1 board
(KV-X2163E/X2162U only)
② M board
④ V board

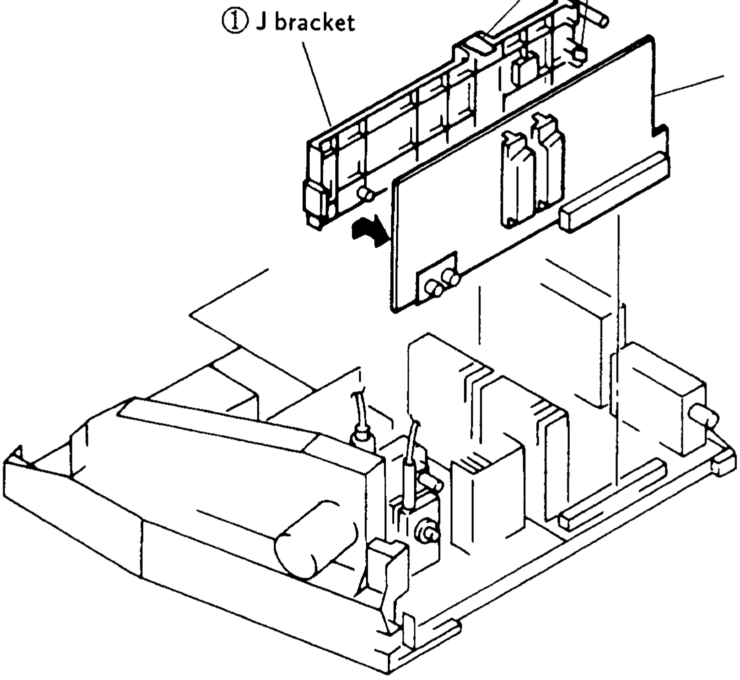
2-5. EXTENSION BOARD


AE 2 A 1 extension board
4-038-319-01
AE 2 M extension board
4-038-321-01
M board
A 1 board
(KV-X 2163 E/X 2162 U only)

2-6. F BRACKET REMOVAL

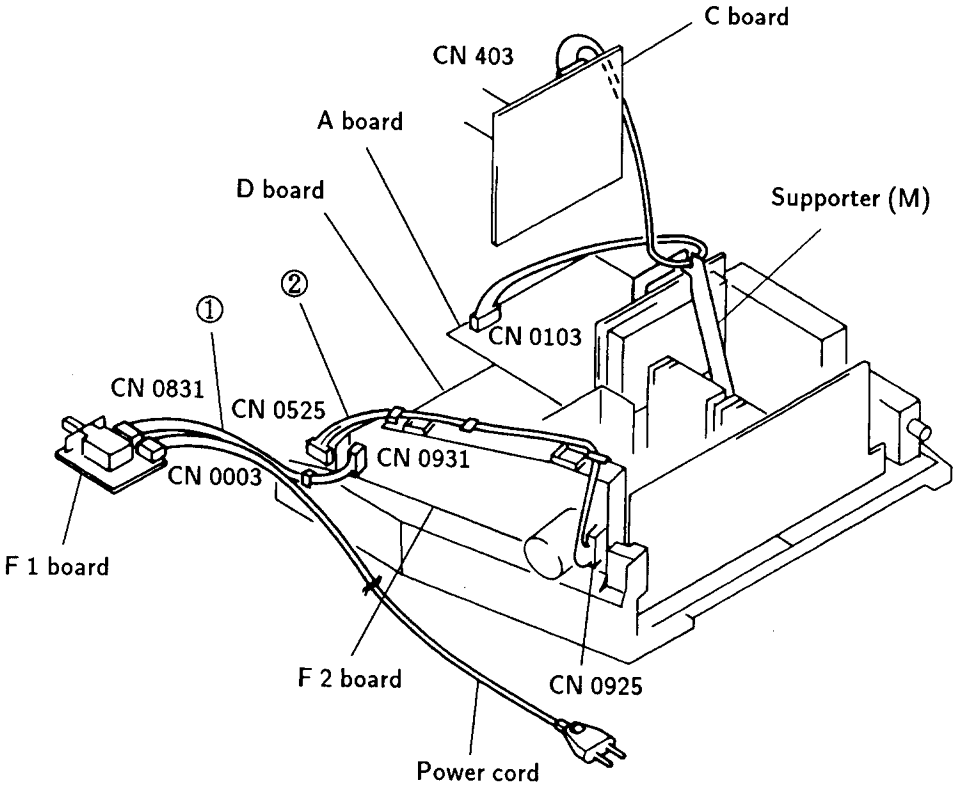

① Two claws
② F bracket

2-7. J BOARD REMOVAL

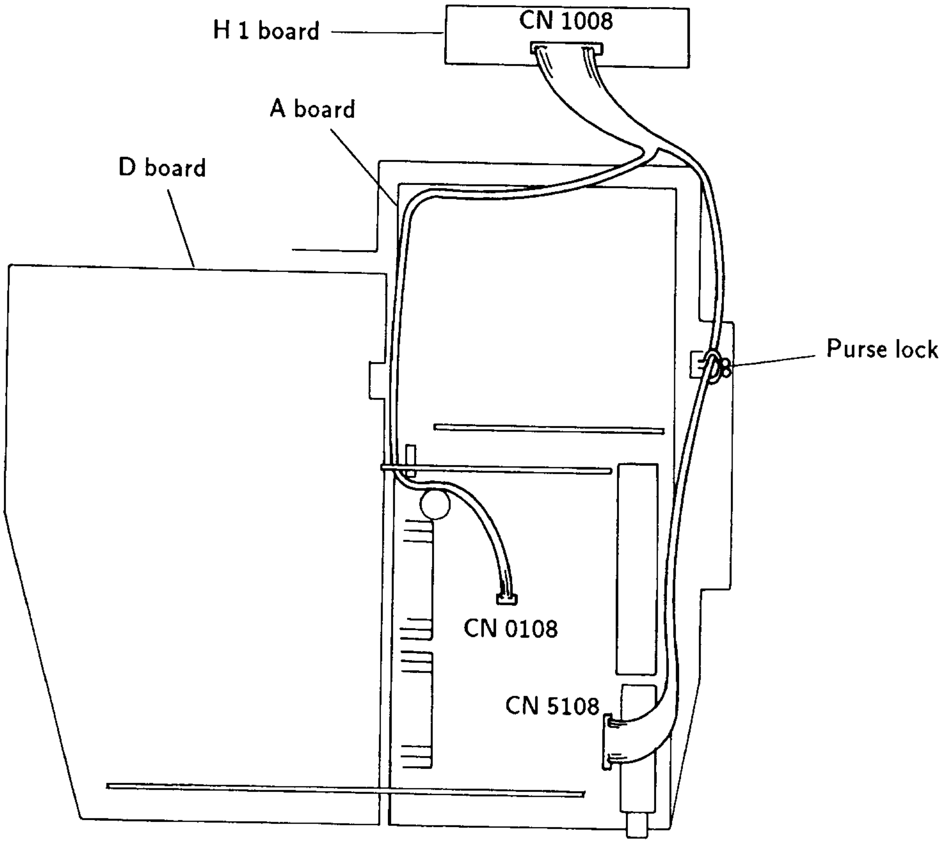

② Two claws
① J bracket
③ J board

2-8-1. WIRE ROD

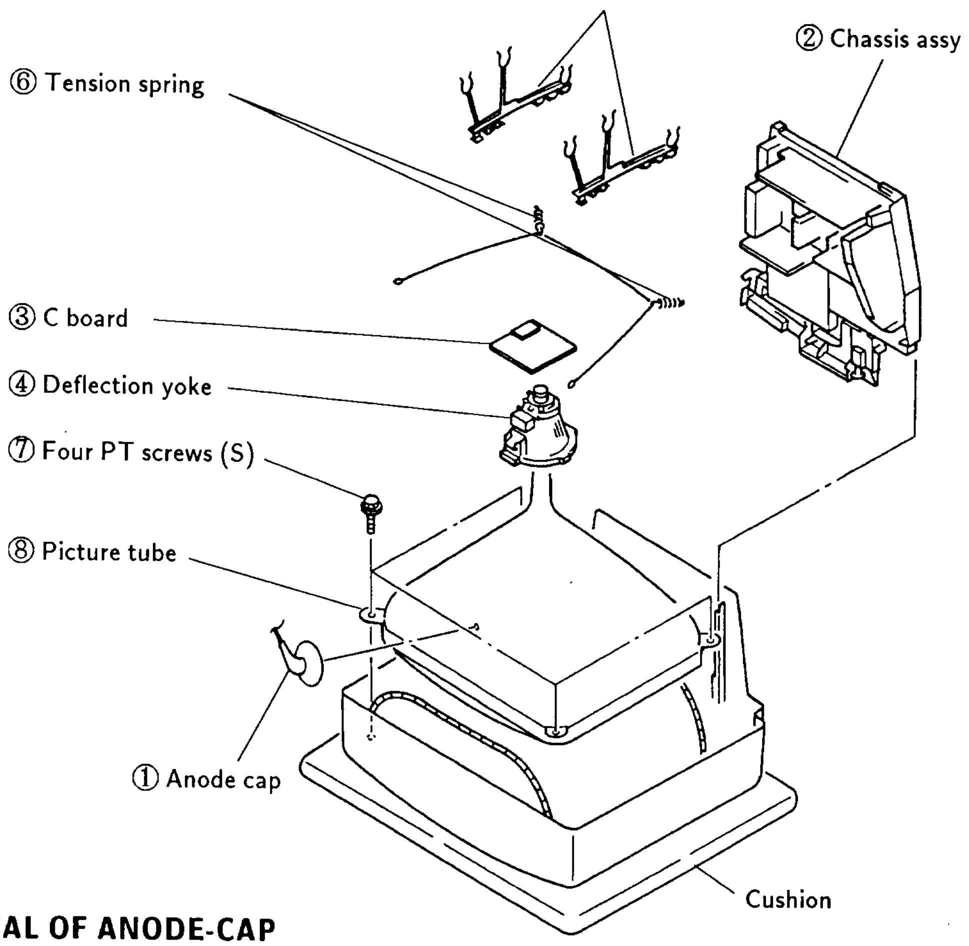
※ Keep distance between ① and ②


C board
CN 403
A board
D board
Supporter (M)
②
①
CN 0103
CN 0831
CN 0525
CN 0931
CN 0003
F 1 board
F 2 board
CN 0925
Power cord

2-8-2. WIRE ROD


H 1 board
CN 1008
A board
D board
Purse lock
CN 0108
CN 5108

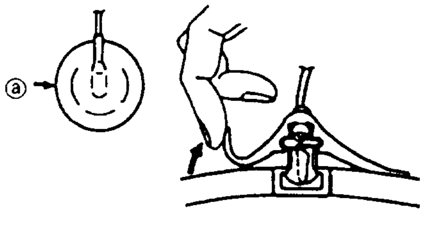
2-9. PICTURE TUBE REMOVAL


⑤ DGC band
② Chassis assy
⑥ Tension spring
③ C board
④ Deflection yoke
⑦ Four PT screws (S)
⑧ Picture tube
① Anode cap
Cushion

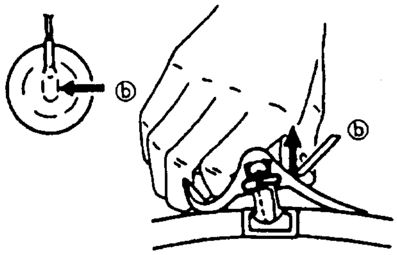
• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT chield or carbon painted on the CRT, after removing the anode.

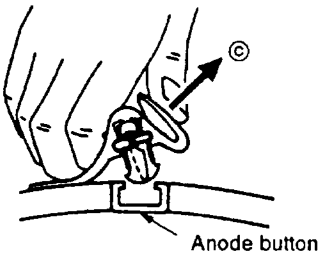
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.


ⓒ
Anode button

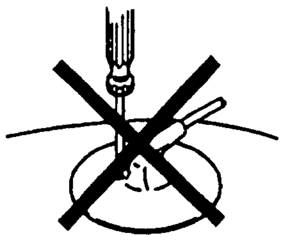
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

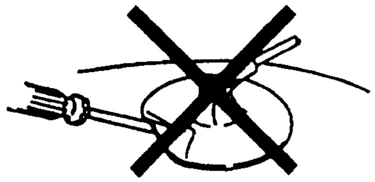
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3
SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :

◑ Contrast .... 80% (or remote control normal)
☼ Brightness 50%

- Carry out the following adjustments in this order :

1. Beam landing
2. Convergence
3. Focus
4. White balance

Note: Testing equipment required.

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast } normal
   Brightness }
2. Position neck assy as shown in Fig.3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side. (See Fig.3-1 - 3-3)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Fig.3-1)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Fig.3-4)

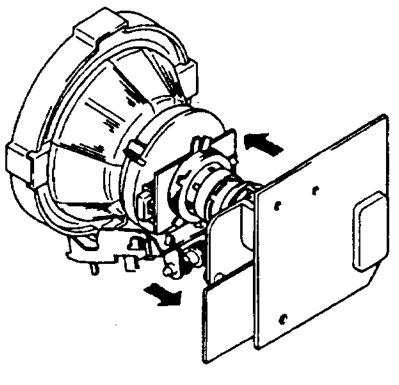


Fig.3-1

Fig.3-2

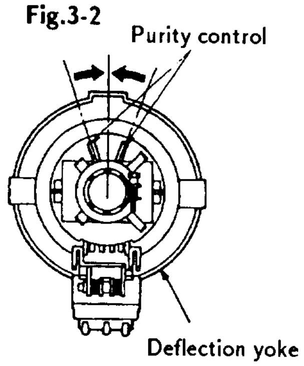
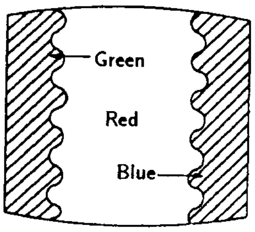
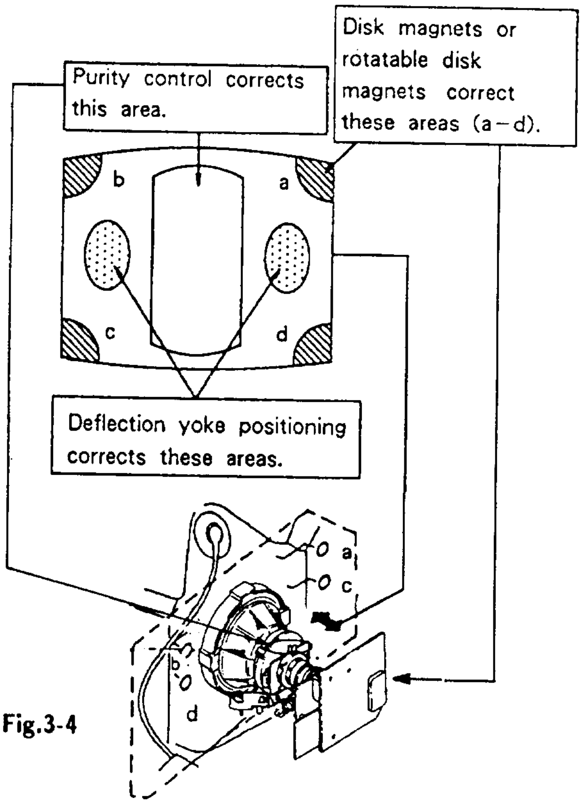


Fig.3-3





Disk magnets or rotatable disk magnets correct these areas (a−d).

Purity control corrects this area.

Deflection yoke positioning corrects these areas.

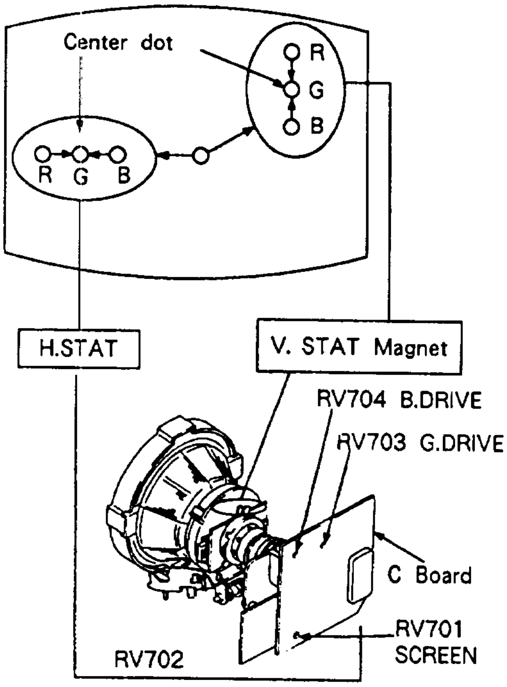
Fig.3-4

3-2. CONVERGENCE

Preparations :

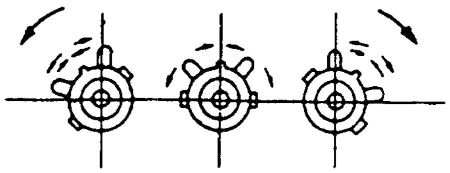
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and vertical static convergence


Center dot
R
G
B
R G B
H.STAT
V. STAT Magnet
RV704 B.DRIVE
RV703 G.DRIVE
C Board
RV701
SCREEN
RV702

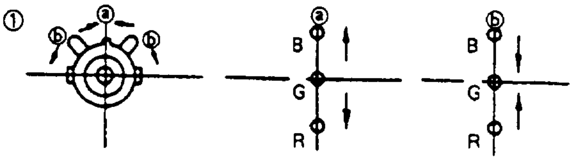
1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
(In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

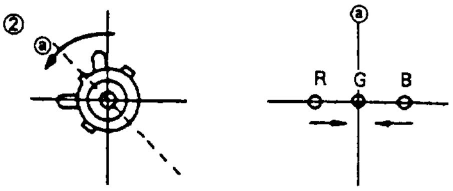


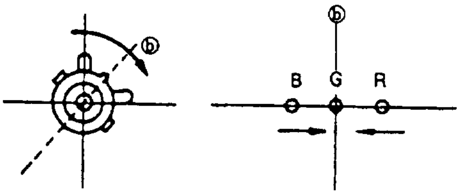
4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.

①

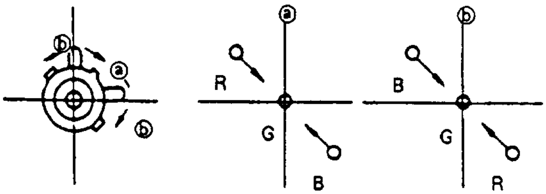


②

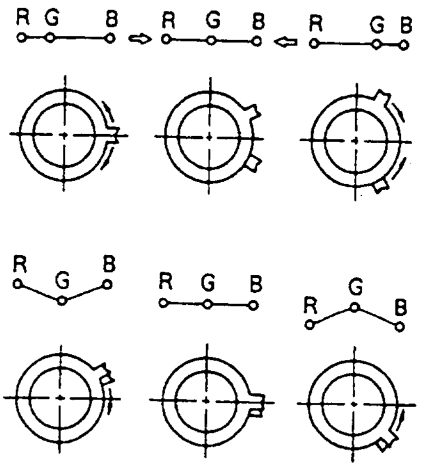


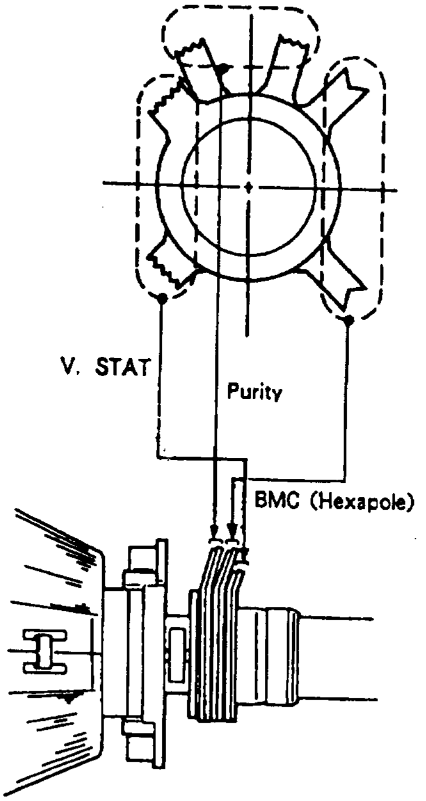


③



- Operation of BMC (Hexapole) Magnet


R G B
R G B
R G B
R G B
R G B
R G B


V. STAT
Purity
BMC (Hexapole)

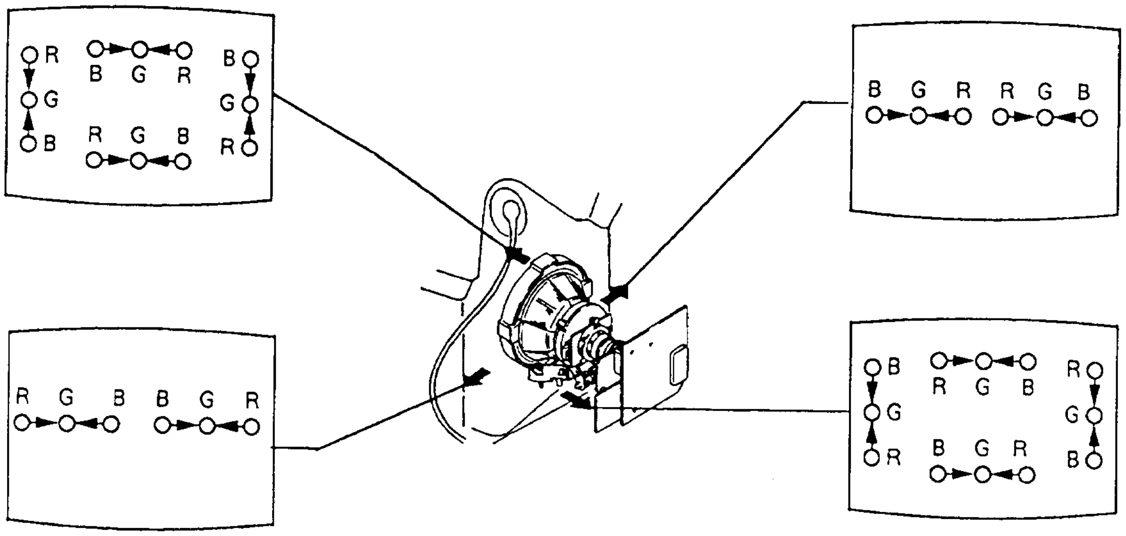
- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

(2)Dynamic convergence adjustment

Preparations :

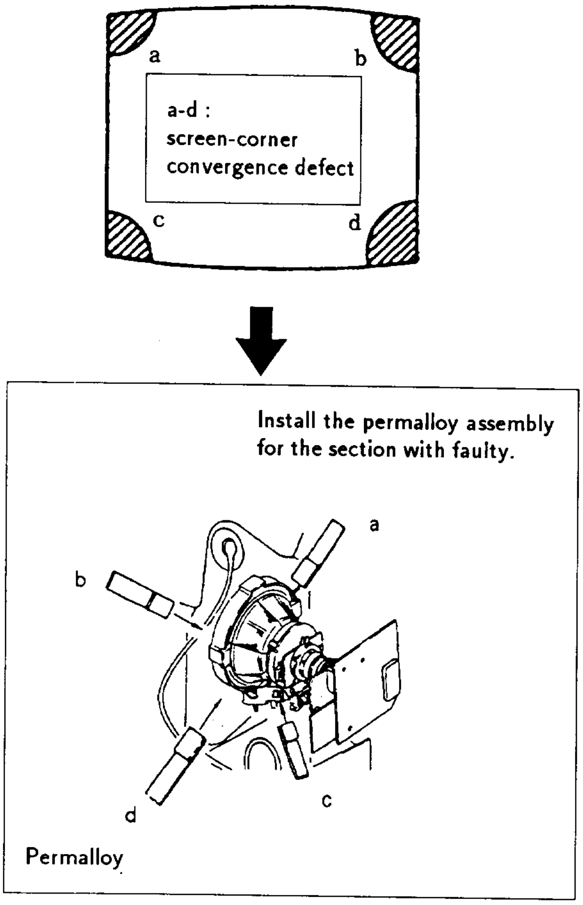
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.


R G B
B G R
R G B
R G B B G R
B G R R G B
B G R
R G B
B G R

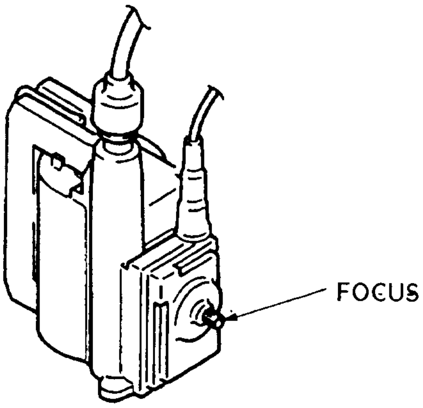
(4) Screen corner convergence

If you cannot adjust corner convergence properly, correct them with permalloy.



3-3. FOCUS

Adjust the focus to optimize the screen.



3-4. WHITE BALANCE

Screen G2 Setting

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 180V DC to the R,G, and B cathodes with an external power supply.
4. While watching the picture, adjust G 2 control RV 701 (Screen) to the point just before the return lines disappear.

White balance adjustment

1. Receive all-white signal.
2. Enter into service mode. (Refer to the section 4 "Electrical Adjustment" to how to enter service mode.)
3. Select CXA 1587 on menu.

09	SUB BRIGHT	ADJ.
10	SUB HUE	7
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.
16	G-AUTO CUT OFF	ADJ.
17	B-AUTO CUT OFF	ADJ.
18	R-MANUAL CUT OFF	ADJ.
19	G-MANUAL CUT OFF	ADJ.
20	B-MANUAL CUT OFF	ADJ.

4. Set picture to MAX.
5. Adjust G-DRIVE B-DRIVE with ▲, ▼ buttons so that the white balance becomes optimum.
6. Press OK button to write the data for each item.
7. Set picture to MIN.
8. Adjust G-AUTO CUT OFF, B-AUTO CUT OFF, R-MANUAL CUT OFF, G-MANUAL CUT OFF and B-MANUAL CUT OFF with ▲, ▼ buttons so that the white balance becomes optimum.
9. Press OK button to write the data for each item.

SECTION 4

CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-830.

HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set while pressing any two buttons on the front panel.

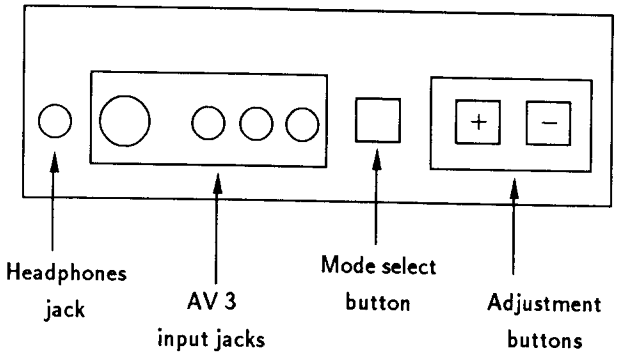


Fig.4-1

2. "TT" will appear on the upper right corner of the screen.

Command operation in service mode

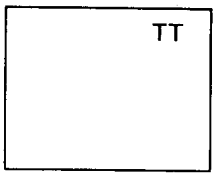


Fig.4-2

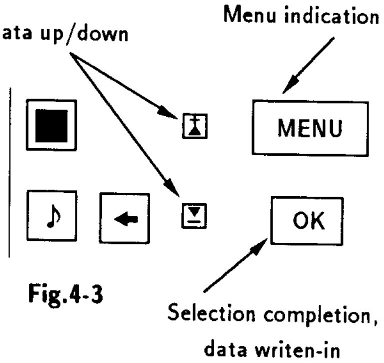
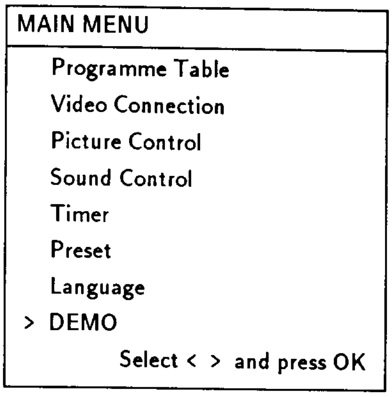

Item selection, data up/down
Menu indication
MENU
OK
Selection completion, data writen-in

Fig.4-3

3. Press the MENU button of the commander to get the menu on screen.



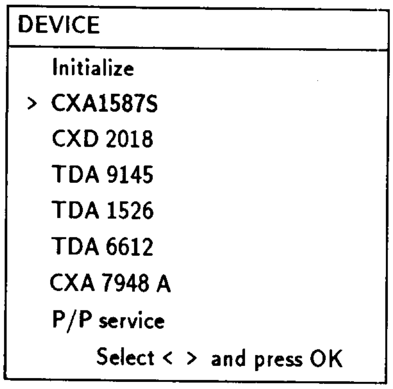
MAIN MENU

Programme Table
Video Connection
Picture Control
Sound Control
Timer
Preset
Language
> DEMO

Select < > and press OK

Fig.4-4

4. Press the ▲ and ▼ buttons of the commander and move > to DEMO.
5. Press OK button to proceed to the next menu.
6. The menu of fig.4-5 will appear on screen. Select DEVICE corresponding to the adjustment item from the table on next page.



DEVICE

Initialize
> CXA1587S
CXD 2018
TDA 9145
TDA 1526
TDA 6612
CXA 7948 A
P/P service

Select < > and press OK

Fig.4-5

7. If adjustment item is CXA1587S, press the ▼ button and move > to CXA1587S.

CXA 1587 S

Item No.	Adjustment item	Data Amout
01	PICTURE	3
02	COLOR	1
03	BRIGHT	1
04	HUE	1
05	SHARPNESS	7
06	RGB PICTURE	3
07	SUB CONTRAST	ADJ.
08	SUB COLOR	ADJ.
> 09	SUB BRIGHT	ADJ.
10	SUB HUE	7
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.

8. Press OK button to get the next selection menu.
9. Press ▼ button and move > to the adjustment item and press OK button.
10. Press the ▲ and ▼ buttons to change the data in order to comply each standard.
11. Press OK button to write data.
12. Turn off the power to quit service mode when completing the adjustment.

CXA 1587 S

01	PICTURE	53
02	COLOR	31
03	BRIGHT	31
04	HUE	31
05	SHARPNESS	7
06	RGB PICTURE	13
07	SUB CONTRAST	ADJ.
08	SUB COLOR	ADJ.
09	SUB BRIGHT	ADJ.
10	SUB HUE	7
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.
16	G-AUTO CUT OFF	ADJ.
17	B-AUTO CUT OFF	ADJ.
18	R-MANUAL CUT OFF	ADJ.
19	G-MANUAL CUT OFF	ADJ.
20	B-MANUAL CUT OFF	ADJ.
21	GAMMA LEVEL	0
22	DC TRANSFER RATIO	3
23	DINAMIC PICTURE	0
24	Y FILTER ADJ	ADJ.
25	Y DELAY TIME	15
26	Y DELAY SWITCH 1	0
27	Y DELAY SWITCH 2	1
28	SHARPNESS LIMIT	ON
29	ALL BLK	OFF
30	H SHIFT	32
31	DAC TEST	ON
32	PRE/OVER SHOOT	7
33	SHARPNESS FO	2
34	SUB SHARPNESS	3
35	R MUTE	OFF
36	G MUTE	OFF
37	B MUTE	OFF
38	AGING 1	OFF
39	AGING 2	OFF
40	AKB OFF	ON
41	INHIBIT RGB	OFF
42	FORCED RGB	OFF
43	V/2 V	OFF
44	AXIS	PAL
45	HUE SW	OFF
46	V EXTENTION	OFF
47	AFC 1	1
48	AFC 2	0
49	AFC OFF	ON
50	REF.POSITION	0

CXD 2018 Q

01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP.V	13
13	HV COMP.H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAM	OFF
19	INTERLACE	ON
20	H SHIFT	32
21	N/S CORRECTION	ADJ.

Typical Value (OSD based)when receiving PAL Philips pattern.

TDA 6612	ADJ.
Stereo-Separation	(30)

Should be adjusted twice 4 : 3 and 16 : 9 mode.

Y FILTER ADJUSTMENT

1. Input PAL RED pattern.
2. Connect an oscilloscope to CN 0403 ① pin (R OUT) on the C board.
3. Enter into service mode and press 3, 8.
4. Adjust data by △ or ▽ to minimize the chroma element of CN 0403 ① pin.

SUB BRIGHTNESS ADJUSTMENT

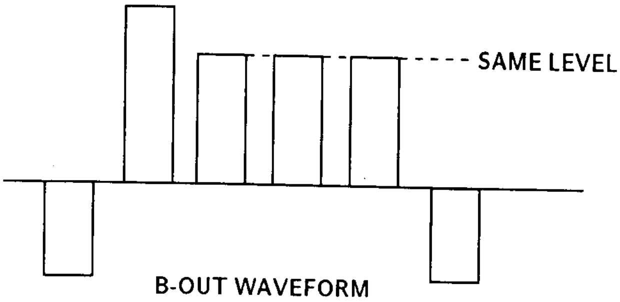
1. Input Phillips pattern.
2. Enter into service mode and press 23.
3. Adjust data so that 0-IRE of the grey scale and CUT -OFF 20-IRE glitter slightly.

SUB CONTRAST ADJUSTMENT

1. Input a video that contains small 100% area on the Black Back ground.
2. Enter into service mode and press 01 to have PIC max followed by 21.
3. Adjust data so that 2.5 Vp-p can be obtained at ① CN 0403 (R out).

SUB COLOR ADJUSTMENT

1. Input PAL color bar.
2. Connect an oscilloscope to CN 0403 ③ pin (B OUT) on the C board.
3. Enter into service mode and press 22 of CXA1587S, 8 SUB COLOR.
4. Adjust data so that the right sides of the waveform will be the same.



B-OUT WAVEFORM

STEREO-SEPARATION ADJUSTMENT

1. Input 1 kHz stereo signal to the L-ch and 400 Hz stereo signal to the R-ch.
2. Enter into service mode and press 19.
3. Adjust data so that sound does not leak to the R-ch and the L-ch.

DRIVE AND CUT OFF

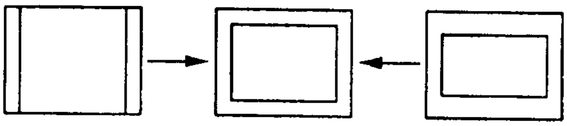
See direct test mode list attached and refer to sub brightness or such for adjustment method.

DEFLECTION SYSTEM ADJUSTMENT

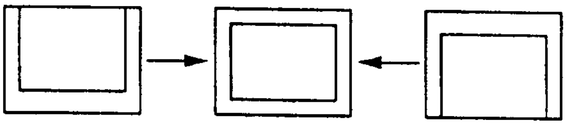
1. Enter into service mode and select CXD 2018.
2. Select and adjust each item in order to get an optimum image.

01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP.V	13
13	HV COMP.H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAM	OFF
19	NON INTERLACE	ON
20	H SHIFT	32
21	N/S CORRECTION	ADJ.

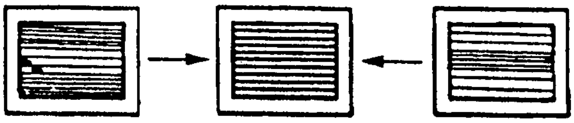
V SIZE



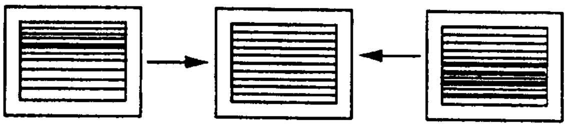
V SHIFT



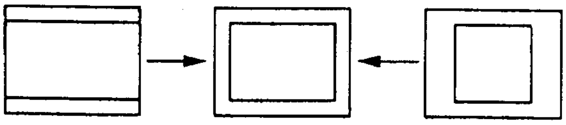
S CORRECTION



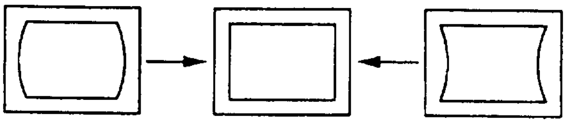
V LINEARITY



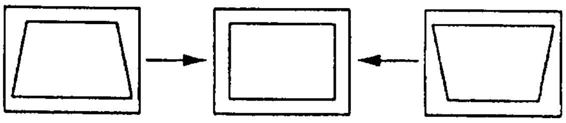
H SIZE



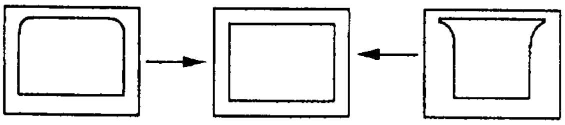
PIN AMP



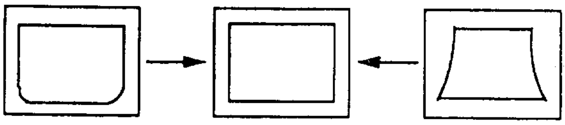
TILT



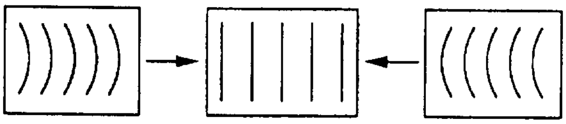
UPPER CORNER PIN



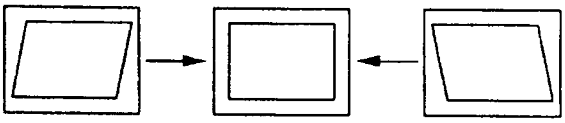
LOWER CORNER PIN



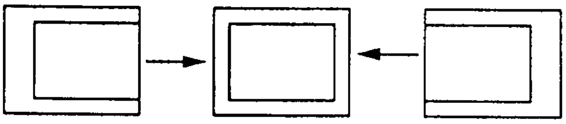
V BOW



ANGLE



H SHIFT



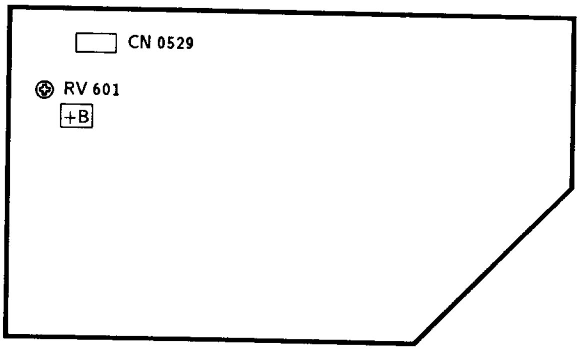
3. Press OK button to write the data.

If menu display may disturb the adjustment press 🔇 to clear, to resume it, press 🔇 again.

4-2. VOLUME ELECTRICAL ADJUSTMENTS

+B (+135 V) ADJUSTMENT (RV 601)

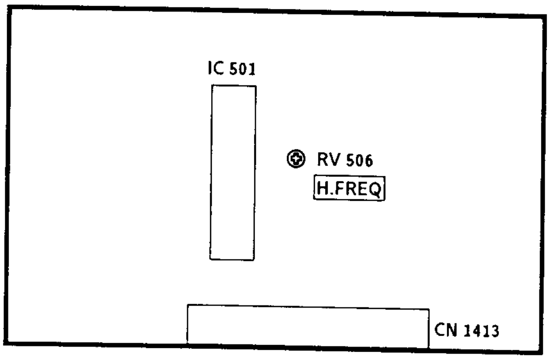
D BOARD



1. Turn on the power of the TV set.
2. Connect a digital multi-meter to ① pin of CN 0529 on D board.
3. Adjust RV 601 on D board to +135 V.

H.FREQ ADJUSTMENT (RV 506)

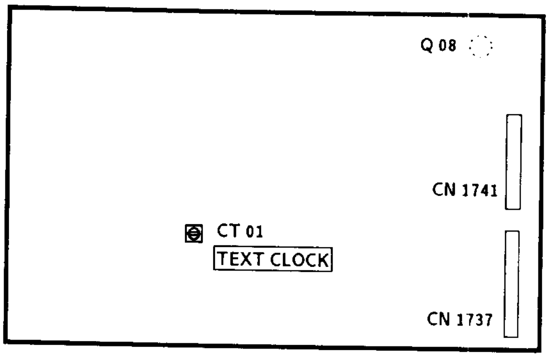
M BOARD



1. Connect GND to ⑫ pin of IC 501 on M board.
2. Connect a frequency counter to ④ pin of IC 501.
3. Adjust RV 506 on M board to 15,625+100 Hz.
4. Remove ⑫ pin of IC 501 from GND.

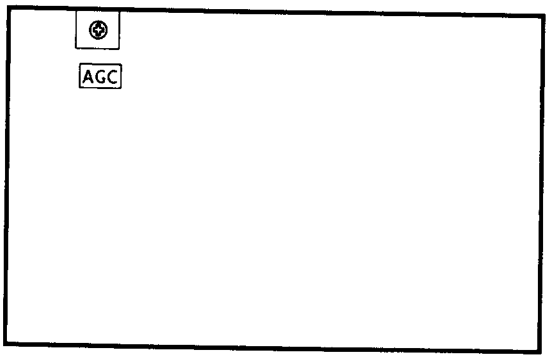
TEXT CLOCK ADJUSTMENT (CT 01)

V BOARD



1. Get TEXT MENU on screen.
2. Connect GND and the base of Q 08 on V board.
3. Adjust CT 01 on V board so that the MENU stands still as much as possible.

AGC ADJUSTMENT (IF BLOCK)



1. Receive off-air signal.
2. Adjust AGC VR so that there is no snow noise and cross-modulation.
3. Change receiving channel and confirm status.

4-3. TEST MODE 2 :

Is available by pressing Test button two times, OSD "TT"appears. The functions described bellow are available by pressing the two numbors. To release the Test Mode 2, press two times 0, or switch TV in Standby Mode.

00	switch Test Mode 2 off
01	picture maximum
02	picture minimum
03	Volume 35%
04	Volume 50%
05	Volume 65%
06	Volume 80%
07	Aging Condition (Volumin., Picture max., Brightness max., Aging 2 Mode of CXA 1587S, TDA 2595 is locked to CXA 1587S via PIN 34 of μ-Con.)
08	Shipping Condition (Analog Values are RESET due to factory setting, Prog 1 is selected, TT Mode is switched off)
09	dummy
10	Tenth entry is deleted
11	Balance
12	Hue
13-14	dummy
15	Read factory setting from NVM Reads Volume, Balance, Treble, Bass, Brightness, Contrast, Hue, Sharpness, Colour values from ROM to the actual used values (Last Power Memory)
16	Save actual used values as RESET values Memorize actual used values Balance, Treble, Bass, Hue, Sharpness at RESET position in NVM
17	Preset Lavel for AV Sources
18	dummy
19	Stereo Seperation
20	Tenth entry is deleted
21	Sub Contrast
22	Sub Colour
23	Sub Brightness
24-29	dummy
30	Tenth entry is deleted
31	Green Drive
32	Blue Drive
33	Green Cut Off (Auto Cut Off)
34	Blue Cut Off (Auto Cut Off)
35	Red Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
36	Green Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
37	Blue Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
38	Y-Filter adjustment (Trap is switched off and TDA 9145 is switched in forced NTSC Mode)
39	dummy
40	Tenth entry is deleted
41	Default setting of CXA 1587S (Only in Plog 99 available)
42	Default setting of CXA 2018 (Only in Plog 99 available)
43	Default setting of CXA 1526 (Only in Plog 99 available)
44	(all Port High) Not yet
45	(all Port High) Not yet
46-48	dummy
49	Erease the NVM Testbyte (this byte detects already stored NMV's) After selecting this function, switch TV Off and On → the NVM will be preset by μ-Controller. (Not the channel data)

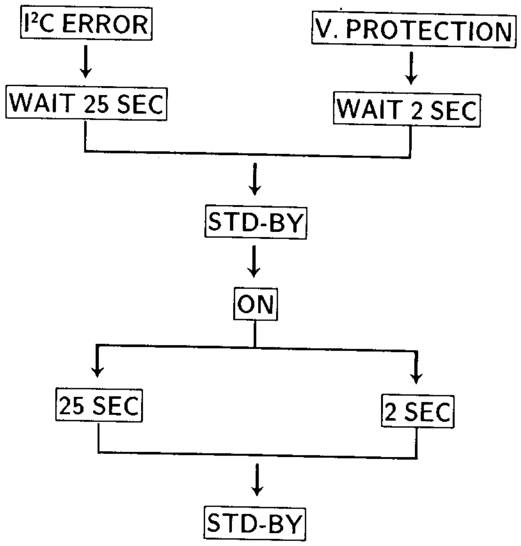
Note : For No. 35, 36, 37 and 38 special pressing (AKB, forced Color Mode, Trap) is selected. After selecting a new Test Mode Number, the AKB is switched ON, the Trap is switched On and TDA 9145 is switched to Auto Search Mode.

In Test Mode 2 the Menu display is switchable by Speaker-Off button.

4-4. ERROR MESSAGE

Self diagnos system can operates as follows.

- When MP can't get the acknowledge back from the device, LED starts flashing according to the table as attached.



In case of more errors in parallel, the blinking error shows max. Priority according to the error number (e.g. error 2 and error 5 appears together, then LEDs shows error 2).

TABLE OF ERRORS

ERROR COUNT	IC TYPE	FUNCTION
1	Ⅱ C BUS	SDA low
2	X 24 C 16	EEPROM
3	SDA 3202	Tuner Pll
4	TDA 9145	Colour decoder
5	CXA 1587S	RGB/Jungle
6	TDA 6612	Sound processor
7	CXD 2018	V deflection
8	CXA 1545	AV switch
11	SDA 5248	Text
13		V protection

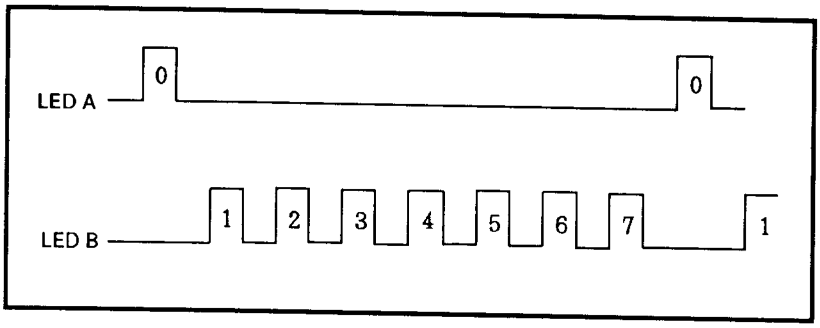
Stand by LED blinking

No IK return

4-5. ERROR Ⅱ C BUS DIAGNOSIS SYSTEM IN AE 2 CHASSIS AVAILABLE

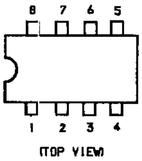
For all ICs in AE 2 chassis which are necessary to get picture and sound there is a built in error I^{2}C Bus diagnosis system.

In case of no acknowledge bit, LED A and LED B starts blinking as shown.

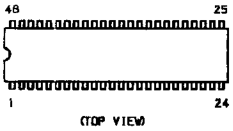


5-6. SEMICONDUCTORS

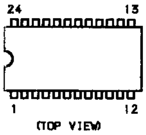
BA7046
LM358D
LM393P
TDA2822-M
TDA4605-3
TEA2114
X24C16P


8 7 6 5
1 2 3 4
(TOP VIEW)

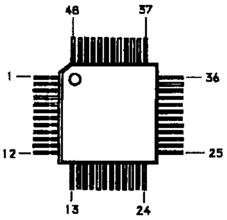
CXA1545AS
CXA1587S


48
25
1
24
(TOP VIEW)

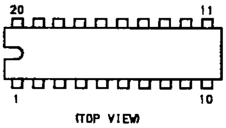
CXD1050A-15P
TDA9145/N1


24
13
1
12
(TOP VIEW)

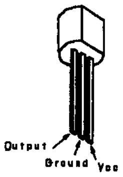
CXD2018Q


48
37
1
36
12
25
13
24

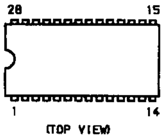
MCM514256AP80
TDA8732


20
11
1
10
(TOP VIEW)

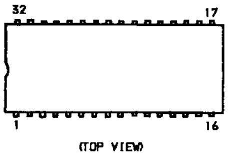
MC78L05ACPRP
MC78L12ACPRP


Output
Ground
Vcc

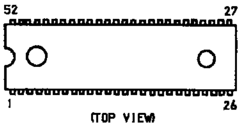
M27C512-20B1-AE27
SDA5231-2
TDA6612
TDA6622


28
15
1
14
(TOP VIEW)

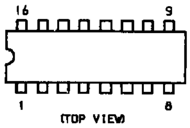
M52308SP


32
17
1
16
(TOP VIEW)

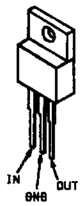
M52312SP


52
27
1
26
(TOP VIEW)

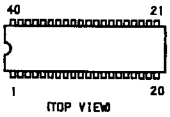
PCF8574
TDA9820


16
9
1
8
(TOP VIEW)

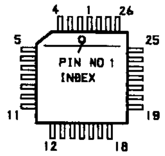
RC7809FA



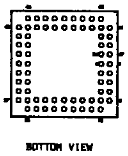
SAA7282P
SDA5248C1


40
21
1
20
(TOP VIEW)

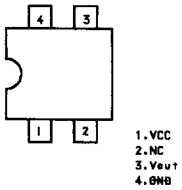
SBX1610-11


4
1
26
5
25
PIN NO 1
INDEX
11
19
12
18

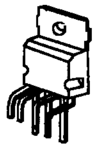
SDA30C162


BOTTOM VIEW

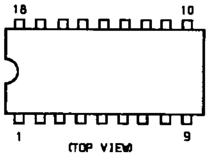
SFH617G-1


4
3
1
2
1.VCC
2.NC
3.Vout
4.GND

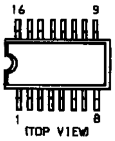
TDA2052
TDA8138A
TDA8179S



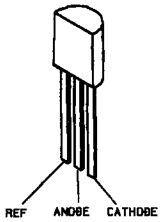
TDA2595/V9


18
10
1
9
(TOP VIEW)

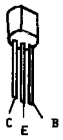
TDA4660V2


16
9
1
8
(TOP VIEW)

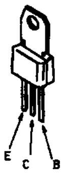
TL431CLP


REF
ANODE
CATHODE

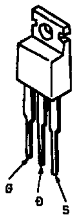
BF199-AMMO



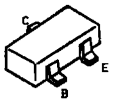
BF871



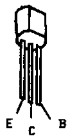
BUZ91A-E3155



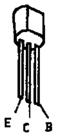
DA116-T146
DTA124EK
DTA144EK
DTA144TK
DTC114EK
DTC124EK
DTC144EK
2SA1162-G
2SC1623-L5L
2SC2413KQ



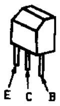
2SA1306A-Y
2SC3298B-Y



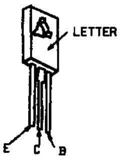
2SA733K
2SA1091-O
2SC2551-O



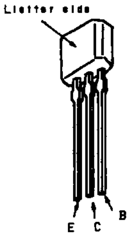
2SB734-34
2SD774-34



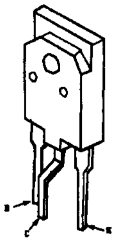
2SB772-Q
2SC2688-LK



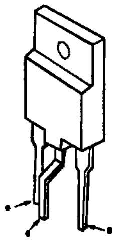
2SC2785-HFE


Letter side
E
C
B

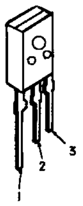
2SC4927-01



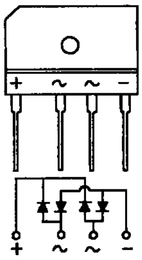
2SK1916-53-F50



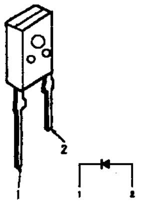
D10SC6M



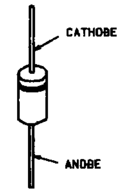
D4SB60L-F



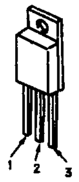
D5L60



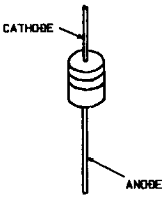
EGP20G
RGP02-17
RGP02-20EL-6394
RU-3AM
RU-30ALFS1
R2K


CATHODE
ANODE

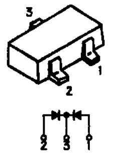
ESAB92-02
ESB85-009



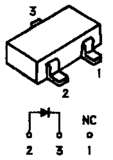
HZS3.6NB1TD
MTZJ-13C
MTZJ-3.3
MTZJ-9.1
MTZJ-30B
MTZJ-33C
MTZJ-39C
MTZJ-T-72-2.2A
RD12ES-B2
RD5.6ES-B1
RD5.6ES-B2
RD6.2ES-B2
RD7.5ES-B2
1SS119


CATHODE
ANODE

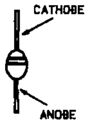
MA152WK



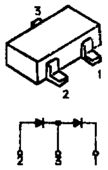
MA3039H-TX
MA3047L-TX
RD5.6M-B2



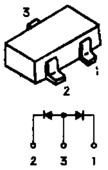
U05G


CATHODE
ANODE

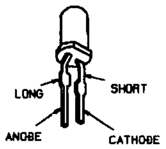
1SS226



1S2836



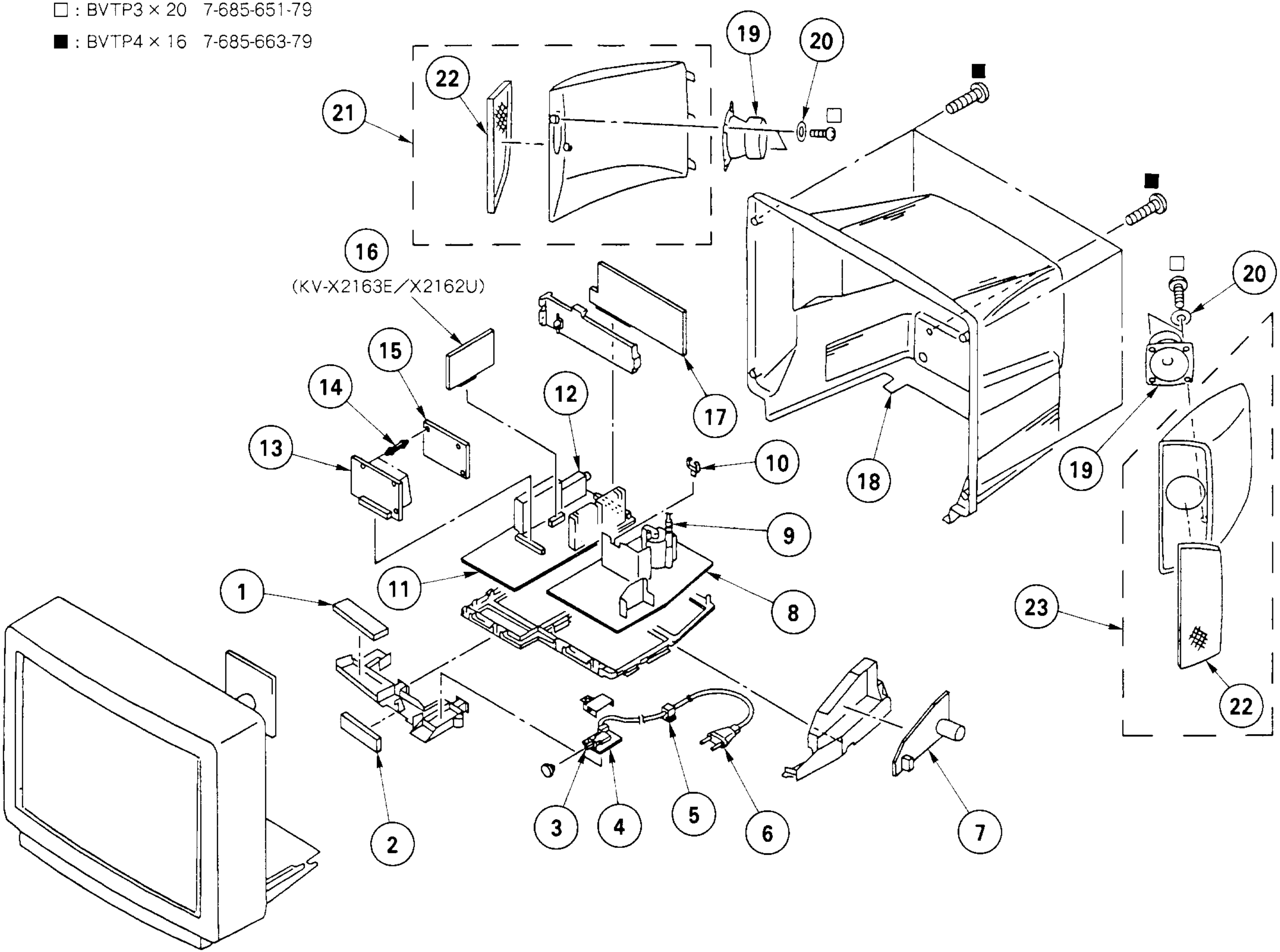
LD-201VR


LONG
SHORT
ANODE
CATHODE

6-1. CHASSIS

☐ : BVTP3 × 20 7-685-651-79

■ : BVTP4 × 16 7-685-663-79


19
20
22
21
■
☐
■
16
(KV-X2163E/X2162U)
20
☐
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11
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1
23
22
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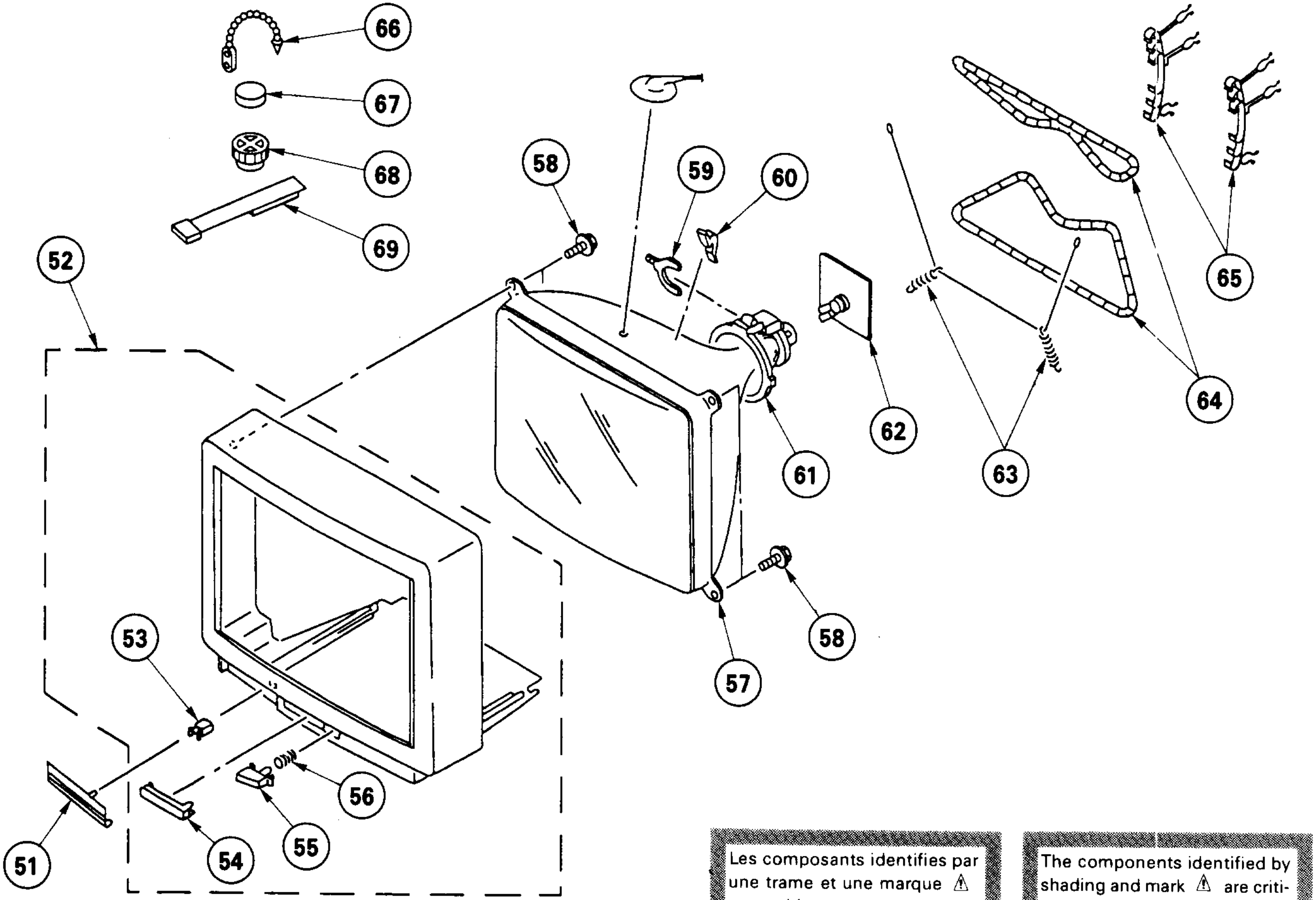
6-2. PICTURE TUBE



66
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51

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SONY

TRINITRON® COLOR TV BASIC SCHEMATIC DIAGRAM

KV-X2161K/RM-830 Chassis No. SCC-F72C
KV-X2561K/RM-830 Chassis No. SCC-F72D
KV-X2961K/RM-830 Chassis No. SCC-F72E

NOTE

THIS SCHEMATIC DIAGRAM IS FOR USE BY YOUR SERVICE TECHNICIAN.
KEEP THIS DIAGRAM HANDY FOR FUTURE REFERENCE.

Sony Corporation
© 1993
4-039-648-01

AE-2 CHASSIS

C323	–	–	560P
C583	330P/50V	150P/50V	150P/50V
CN0119	–	–	4P
D305	–	–	DAN202K
D311	–	–	DA204K
IC302	TDA4661/V2	TDA4660V2	TDA4660V2
L306	–	4.7 µH	4.7 µH
Q301	–	DTC124EK	DTC124EK
Q302	–	2SA1037K	2SA1037K
Q305	–	DTC144EK	DTC144EK
Q308	–	2SA1037K	2SA1037K
Q309	–	2SC2413KT146	2SC2413KT146
R313	–	22K 1/10W	22K 1/10W
R317	–	10K 1/10W	10K 1/10W
R320	–	100 1/8W	100 1/8W
R321	–	390 1/10W	390 1/10W
R324	–	–	1K 1/10W
R325	–	–	470 1/10W
R326	–	10K 1/10W	10K 1/10W
R328	–	–	100 1/10W
R329	–	–	82 1/10W
R330	–	–	1.5K 1/10W
R365	–	10K 1/10W	10K 1/10W
R366	–	5.6K 1/10W	5.6K 1/10W
R367	3.3K 1/8W	–	–
R373	47 1/10W	–	–
R586	320 1/10W	1.5K 1/10W	1.5K 1/10W

SCHEMATIC DIAGRAMS

Note :

- All capacitors are in µF unless otherwise noted. pF : µµF 50WV or less are not indicated except for electrolytic.
- Indication of resistance, which dose nct have one for rating electrical power, is as follows.

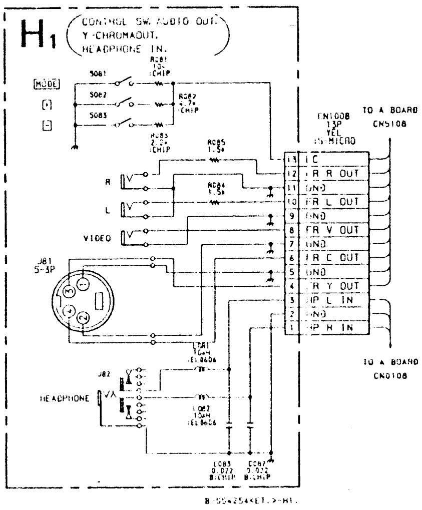
  Pitch : 5mm
  Rating electrical power : ¼W

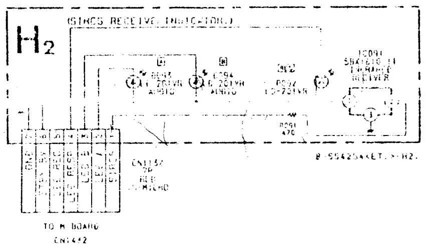
  kΩ = 1000 Ω, MΩ = 1000K Ω
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ▭ : panel designation and adjustment for repair.

Reference information

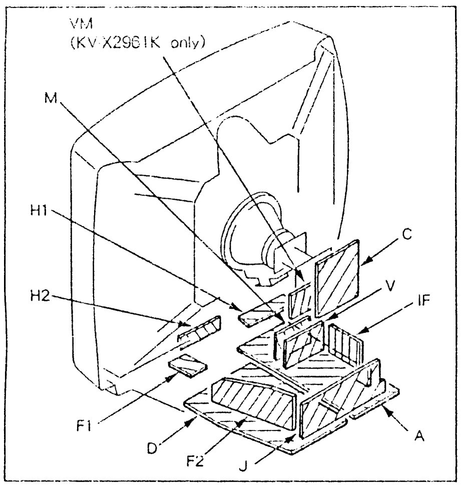
RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.


H1
CONTROL SW, AUDIO OUT, Y-CHROMAOUT, HEADPHONE IN.
MODE
S061
S062
S063
R081 10k :CHIP
R082 4.7k :CHIP
R083 2.2k :CHIP
R085 1.5k
R084 1.5k
R
L
VIDEO
J81 S-3P
J82
HEADPHONE
L081 10µH :EL0606
L082 10µH :EL0606
C083 0.022 B:CHIP
C087 0.022 B:CHIP
CN1008 13P YEL :S-MICRO
13 C
12 FR R OUT
11 GND
10 FR L OUT
9 GND
8 FR V OUT
7 GND
6 FR C OUT
5 GND
4 FR Y OUT
3 HP L IN
2 GND
1 HP R IN
TO A BOARD CN5108
TO A BOARD CN0108
B-SS4254<ET.>-H1.

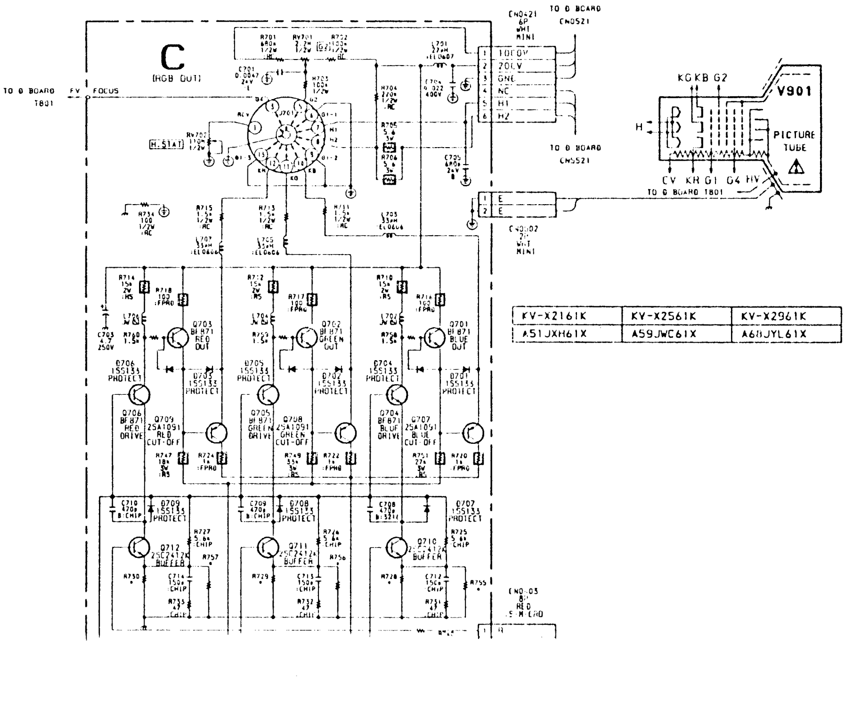

H2
(SIRCS RECEIVE, INDICATOR.)
IC091 SBX1610-11 INFRARED RECEIVER
B-SS4254<ET.>-H2.
TO H BOARD CN1442

CIRCUITO BOARDS LOCATION

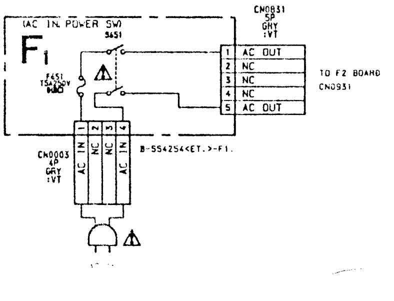

VM
(KV-X2961K only)
M
H1
H2
C
V
IF
F1
D
F2
J
A

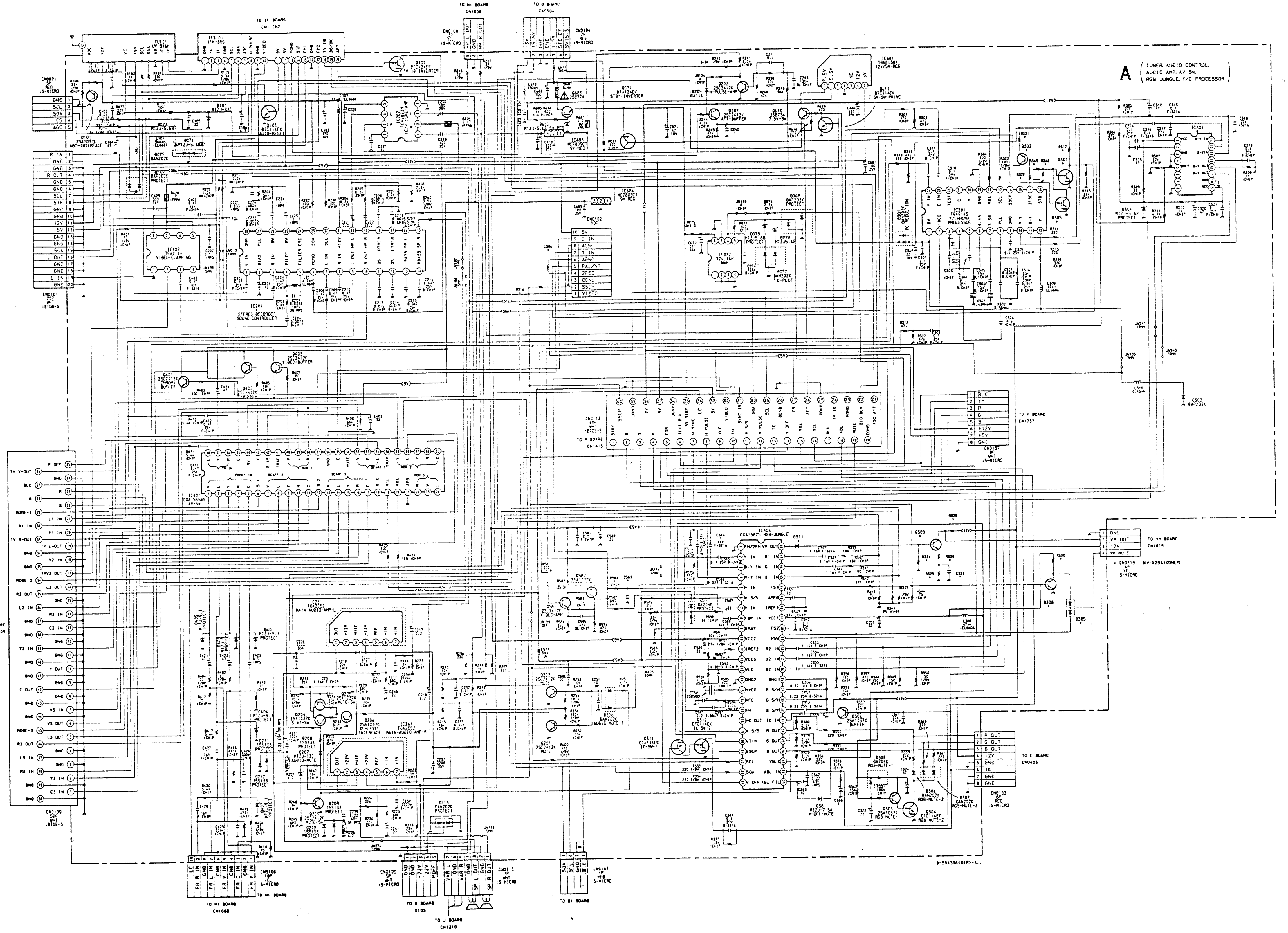
● C BOARD * MARK

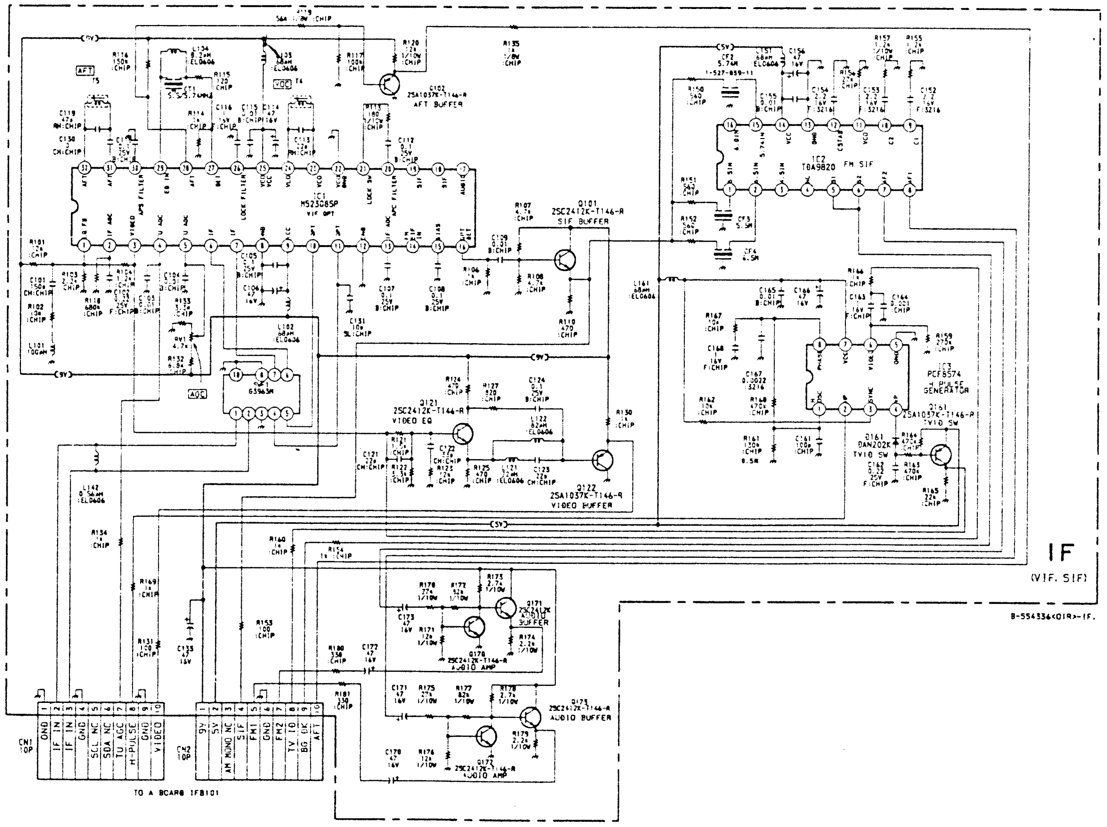
	21"	25"	29"
R728	470 1/10W	390 1/10W	390 1/10W
R729	470 1/10W	390 1/10W	390 1/10W
R730	470 1/10W	330 1/10W	390 1/10W
R755	3.3K 1/10W	6.8K 1/10W	2.2K 1/10W
R756	3.3K 1/10W	6.8K 1/10W	2.2K 1/10W
R757	3.3K 1/10W	6.8K 1/10W	2.2K 1/10W


C
(RGB OUT)
TO D BOARD T801
FV FOCUS
R701 680k 1/2W :RC
RV701 2.2M 1/2W
R702 100k 1/2W :RC
C701 0.0047 2kV
R703 100k 1/2W
R704 220k 1/2W :RC
L701 27µH :EL0607
C704 0.022 400V
CN0421 6P WHT MINI
1 100V
2 200V
3 GND
4 NC
5 H1
6 H2
TO D BOARD CN521
TO D BOARD CN5521
CN0402 2P WHT MINI
1 E
2 E
KG KB G2
V901
PICTURE TUBE
CV KR G1 G4 HV
TO D BOARD T801
Q703 BF871 RED OUT
Q702 BF871 GREEN OUT
Q701 BF871 BLUE OUT
Q706 BF871 RED DRIVE
Q705 BF871 GREEN DRIVE
Q704 BF871 BLUE DRIVE
Q709 2SA1091 RED CUT-OFF
Q708 2SA1091 GREEN CUT-OFF
Q707 2SA1091 BLUE CUT OFF
Q712 2SC2412K BUFFER
Q711 2SC2412K BUFFER
Q710 2SC2412K BUFFER
PHOTECT
CN0403 8P RED S MICRO

KV-X2161K	KV-X2561K	KV-X2961K
A51JXH61X	A59JWC61X	A68JYL61X


F1
(AC IN, POWER SW)
S651
F651 T5A250V
CN0831 5P GRY :VT
1 AC OUT
2 NC
3 NC
4 NC
5 AC OUT
TO F2 BOARD CN0931
CN0003 4P GRY :VT
1 AC IN
2 NC
3 NC
4 AC IN
B-SS4254<ET.>-F1.

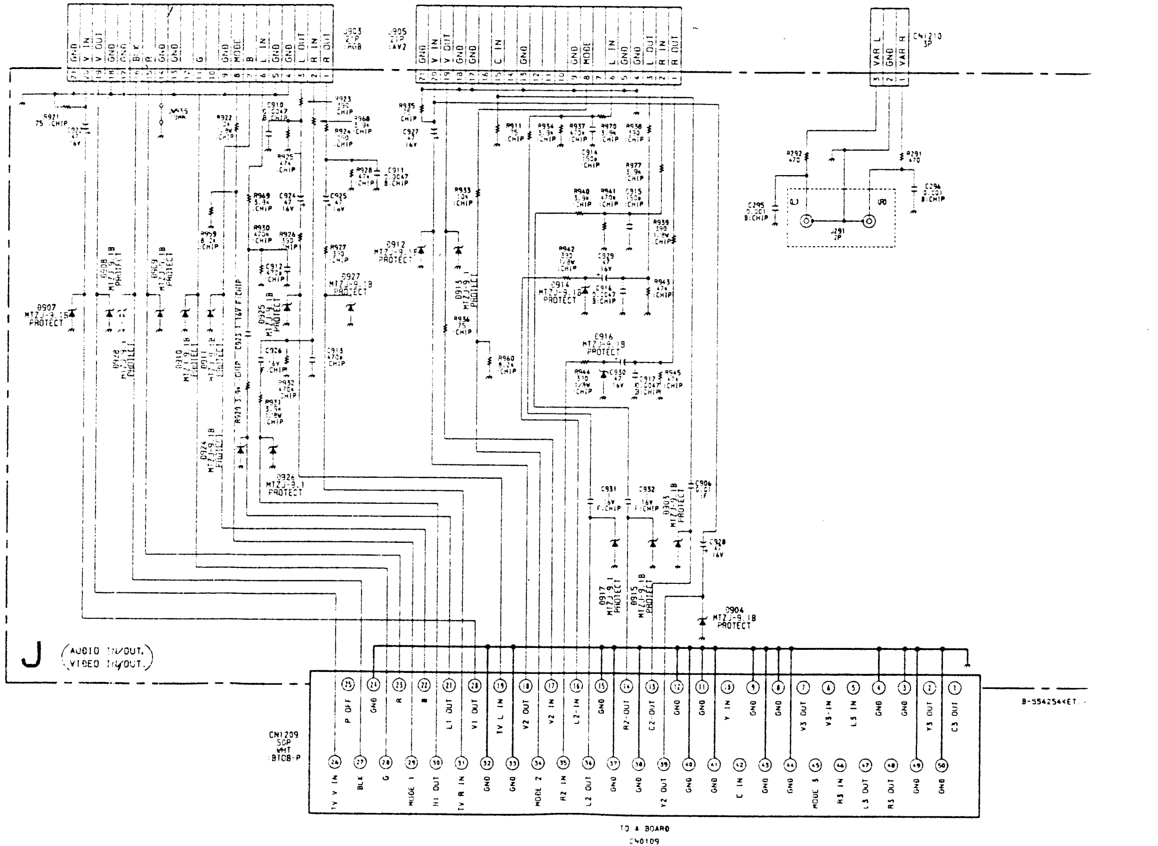

A
TUNER, AUDIO CONTROL,
AUDIO AMP, AV SW,
RGB JUNGLE, Y/C PROCESSOR.
TU101 UV-916H
TO IF BOARD CN1, CN2
IFB101 IFH-385
TO H1 BOARD CN1038
TO B BOARD CN0504
CN0104 7P REC :S-MICRO
IC681 TA8813AN 12V/5V-REG
Q101 2SA1037K AGC-INTERFACE
Q107 DTC144EK V-18-INVERTER
Q103 DTC114EK AUTO-RESET
Q071 DTA124EK STBY-INVERTER
Q203 2SC2412K H-PULSE-AMP
Q207 2SC2412K AFT-BUFFER
Q610 2SB734 7.5V-SW
Q611 DTC114EK 7.5V-SW-DRIVE
IC685 MC7809 9V-REG
IC684 MC7809CT 9V-REG
IC402 TEA2114 VIDEO-CLAMPING
IC201 STEREO-DECODER SOUND-CONTROLLER
IC072 X2416P NVM
D079 MTZJ-6.8B PROTECT
D078 MTZJ-6.8B
D077 BAN202K I2C-PLOT
IC301 TDA9145 Y/CHROMA PROCESSOR
IC302
D304 MTZJ-5.6B PROTECT
CN0102 10P
Q401 2SC2412K CHROMA BUFFER
Q403 2SC2412K VIDEO-BUFFER
CN1113 40P TO M BOARD CN1413
TO V BOARD CN1737
CN0137 8P :S-MICRO
IC401 CXA1545AS AV-SW
CN0109 50P WHT :BT08-5
CN0101 20P WHT :BT08-5
IC251 TDA7252 MAIN-AUDIO-AMP-L
IC261 TDA7252 MAIN-AUDIO-AMP-R
IC351 CXA1587S RGB-JUNGLE
Q309
Q308
D305
TO VM BOARD CN1819
CN0119 4P :S-MICRO
TO C BOARD CN0403
CN0103 8P RED :S-MICRO
Q502 2SC2412K VIDEO-AMP
Q202 2SC2412K
Q201 2SC2412K MUTE
D206 BAN202K AUDIO-MUTE-1
Q311 DTA144EK IK-SW-1
Q312 DTC144EK IK-SW-2
Q307 2SA1037K BUFFER
Q308 BA204K RGB-MUTE-1
Q303 2SA1037K RGB-MUTE-1
Q304 DTC114EK RGB-MUTE-2
D306 BAN202K RGB-MUTE-2
D307 DAN202K RGB-MUTE-3
D361 MTZJ-7.5B V-OFF-MUTE
CN5108 10P :S-MICRO
TO H1 BOARD CN1088
CN0105 5P :S-MICRO
TO B BOARD 0105
CN0110 7P WHT :S-MICRO
TO J BOARD CN1210
CN0107 4P WEB :S-MICRO
TO B1 BOARD
B-554336(01R)-A..



IF

(VIF, SIF)

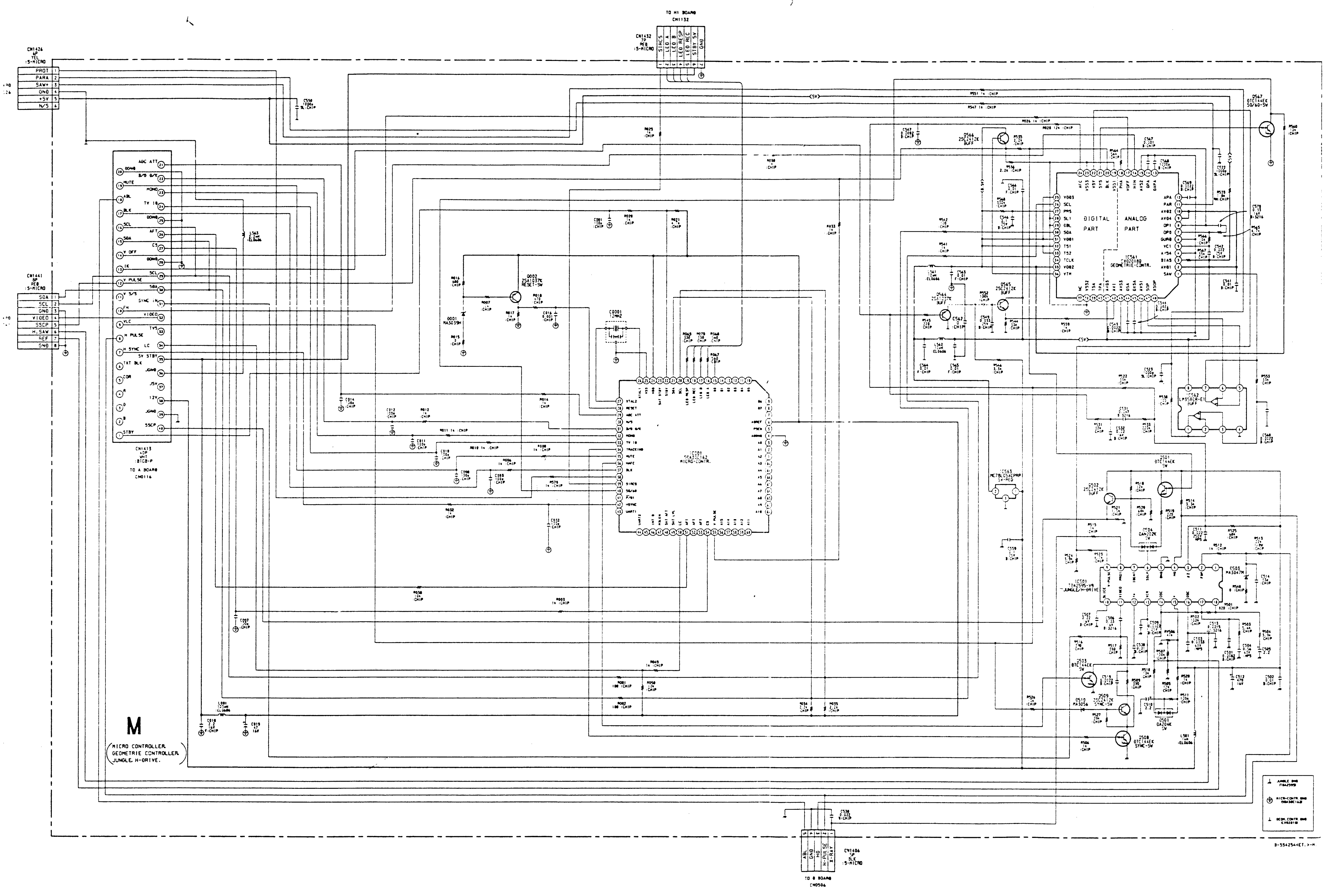
IC1 M52308SP VIF DET
IC2 TDA9820 FM SIF
IC3 PCF8574 H PULSE GENERATOR
Q101 2SC2412K-T146-R SIF BUFFER
Q102 2SA1037K-T146-R AFT BUFFER
Q121 2SC2412K-T146-R VIDEO EQ
Q122 2SA1037K-T146-R VIDEO BUFFER
Q161 2SA1037K-T146-R TV10 SW
D161 DAN202K TV10 SW
Q171 2SC2412K-T146-R AUDIO BUFFER
Q172 2SC2412K-T146-R AUDIO AMP
Q173 2SA1037K-T146-R AUDIO BUFFER
Q178 2SC2412K-T146-R AUDIO AMP
AFT
AGC
T4
T5
CF2 5.74M
CF3 5.5M
CF4 4.5M
(5V)
(9V)
CN1 10P
GND
IF IN
IF IN
GND
SCL NC
SDA NC
TU AGC
H-PULSE
GND
VIDEO
CN2 10P
9V
AM MONO NC
5V
SIF
FM1
GND
FM2
TV 10
BG IDE
AFT
TO A BOARD IFB101
B-554336<01R>-IF

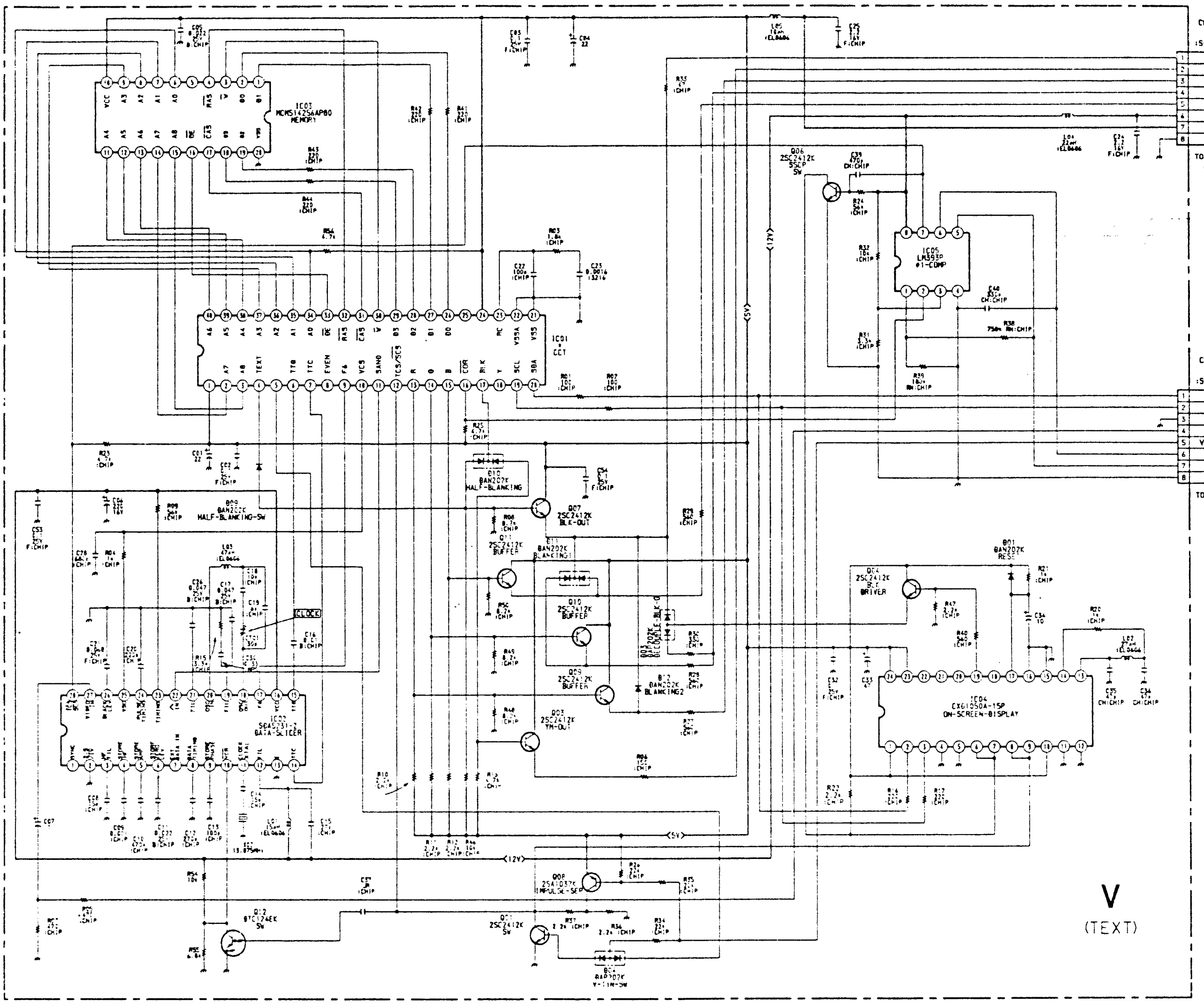


J

(AUDIO IN/OUT, VIDEO IN/OUT)

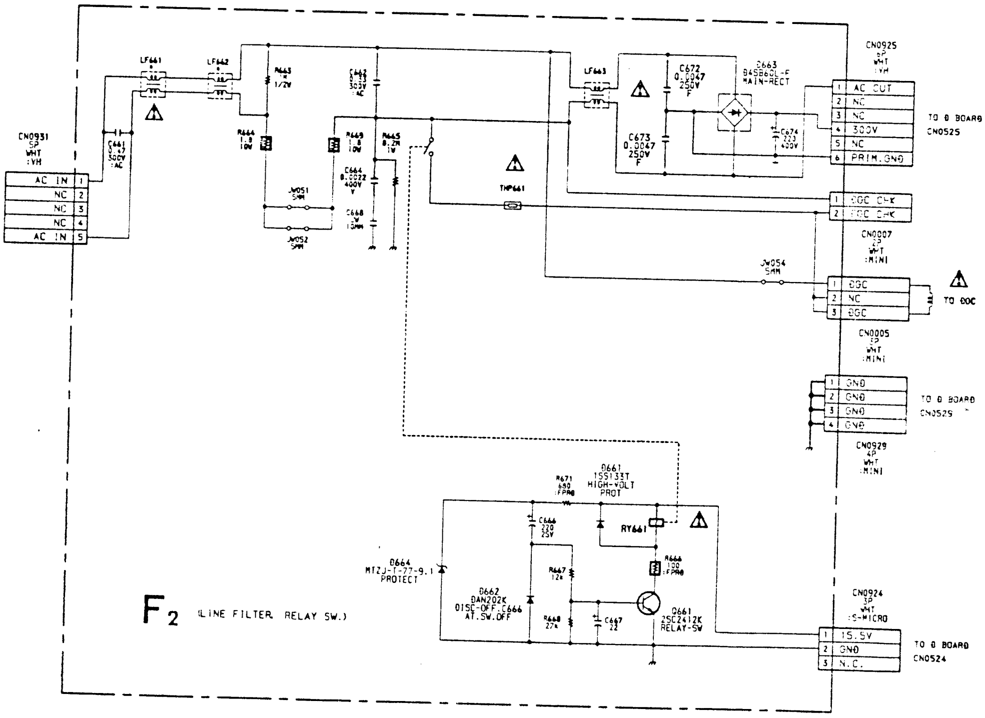
J903 21P
J905 21P
CN1210 3P
TO A BOARD CN1210
VAR L
GND
VAR R
J291
D907 MTZJ-9.1B PROTECT
D912 MTZJ-9.1B PROTECT
D914 MTZJ-9.1B PROTECT
D916 MTZJ-9.1B PROTECT
D926 MTZJ-9.1 PROTECT
D927 MTZJ-9.1B PROTECT
D904 MTZJ-9.1B PROTECT
CN1209 50P VHT BTOB-P
P OFF
GND
R
B
L1 OUT
V1 OUT
TV L IN
V2 OUT
V2 IN
L2 IN
GND
R2 OUT
C2 OUT
GND
GND
Y IN
GND
GND
V3 OUT
V3 IN
L3 IN
GND
Y3 OUT
C3 OUT
TV V IN
BLK
G
MODE 1
R1 OUT
TV R IN
GND
GND
MODE 2
R2 IN
L2 OUT
GND
GND
Y2 OUT
GND
GND
C IN
GND
GND
MODE 3
R3 IN
L3 OUT
R3 OUT
GND
GND
TO A BOARD CN0109
B-554254<ET


M
MICRO CONTROLLER
GEOMETRIE CONTROLLER
JUNGLE, H-DRIVE
TO H1 BOARD
CN1132
CN1432
7P
RED
:S-MICRO
SIRCS
LED A
LED B
LED RESP
LED REC
STBY 5V
GND
CN1426
6P
YEL
:S-MICRO
PROT
PARA
SAW+
GND
+5V
N/S
C550
1000p
SL:CHIP
CN1441
8P
RED
:S-MICRO
SDA
SCL
GND
VIDEO
SSCP
H.SAW
REF
GND
AGC ATT
DGND
B/D G/K
MUTE
MONO
ABL
TV 1D
BLK
SCL
AFT
SDA
CS
V OFF
IK
V PULSE
SDA
V S/S
SYNC IN
FH
VIDEO
VLC
TVS
H PULSE
LC
H SYNC
5V STBY
TXT BLK
JGND
COR
J5V
R
12V
G
B
SSCP
STBY
CN1413
40P
WHT
:BTCB-P
TO A BOARD
CN0116
L563
2.2mH
:EL0606
Q002
2SA1037K
RESET-SW
D001
MA3039H
CX001
12MHZ
R069 330 :CHIP
R070 330 CHIP
R068 560 :CHIP
R067 560 :CHIP
IC001
SDA30C162
MICRO-CONTR.
XTAL1
VSS
VDD
SAT STBY
STBY
SDA
SCL
LED RESP
LED REC
LED B
LED A
XTAL2
RESET
AGC ATT
N/S
B/G G/K
MONO
TV 1D
TRACKING
MUTE
HAFC
BLK
SIRCS
50/60
P/B1
HSYNC
UART1
UART2
INT 0
HXLEN
SAT AFT
SAT LVL
LC
AFT
CS
V PULSE
AGREF
PSEN
AGGND
R026 1k :CHIP
R028 12k :CHIP
R551 1k :CHIP
R547 1k :CHIP
Q567
DTC144EK
50/60-SW
Q566
2SC2412K
BUFF
Q565
2SC2412K
BUFF
Q564
2SA1037K
BUFF
IC561
CXD2018Q
GEOMETRIE-CONTR.
DIGITAL PART
ANALOG PART
AFC
VSS3
VSY
SYS
BLK
VSS1
PHA
VOFF
HIN
AVS2
OPA
OXPA
VDD3
SCL
PRS
SL1
DBL
SDA
VDD1
TS1
TS2
TCLK
VDD2
VTM
APA
PAR
AVD2
AVD4
DP1
DP0
GURD
VC1
AVS4
BIAS
AVD1
SAW
NC
VSS2
TSA
TPA
AVD3
AV1
AVS3
DSA
OXSA
AVS1
SOP
XSOP
(5V)
IC562
LM358DR-E1
BUFF
IC563
MC78L05ACPRP
5V-REG
Q501
DTC144EK
SW
Q502
2SC2412K
BUFF
D504
DAN202K
SW
IC501
TDA2595-V9
JUNGLE/H-DRIVE
V-PULSE
PROT
IDENT
SSCP
GND
HD
F2
FB
SLICE
VIDEO
F0
VCR
OSC
OSC
D503
MA3047M
Q503
DTC144EK
SW
Q509
2SC2412K
SYNC-SW
D510
MA3056
Q508
DTC144EK
SYNC-SW
D501
DA204K
SW
L501
1mH
:EL0606
C538
0.022
B:CHIP
ABL
GND
HD
H-PULSE
X-RAY
CN1406
5P
BLK
:S-MICRO
TO B BOARD
CN0506
JUNGLE GND
(TDA2595)
MICRO-CONTR. GND
(SDA30C162)
GEOM. CONTR. GND
(CX02018)
B-554254<ET.>-M


IC03 MCM5142SAAP80 MEMORY
IC01 CCT
IC02 SDA5231-2 DATA-SLICER
IC04 CXG1050A-15P ON-SCREEN-DISPLAY
IC05 LM393P #1-COMP
Q06 2SC2412K BSCP SW
Q07 2SC2412K BLK-OUT
Q11 2SC2412K BUFFER
Q10 2SC2412K BUFFER
Q09 2SC2412K BUFFER
Q03 2SC2412K YM-OUT
Q04 2SC2412K BLK DRIVER
Q08 2SA1037K IMP-PULSE-SEP
Q01 2SC2412K SW
Q12 DTC124EK SW
D08 DAN202K HALF-BLANKING-SW
D10 DAN202K HALF-BLANKING
D11 DAN202K BLANKING1
D12 DAN202K BLANKING2
D01 DAN202K RESET
CLOCK
X01 13.875MHz
CN1737 8P WHT :S-MICRO
1 BLK
2 YM
3 R
4 G
5 B
6 +12V
7 +5V
8 GND
TO A BOARD CN0137
CN1741 8P RED :S-MICRO
1 SDA
2 SCL
3 GND
4 VIDEO
5 V.PULSE
6 H.SAW
7 REF
8 GND
TO M BOARD CN1441
(12V)
(5V)

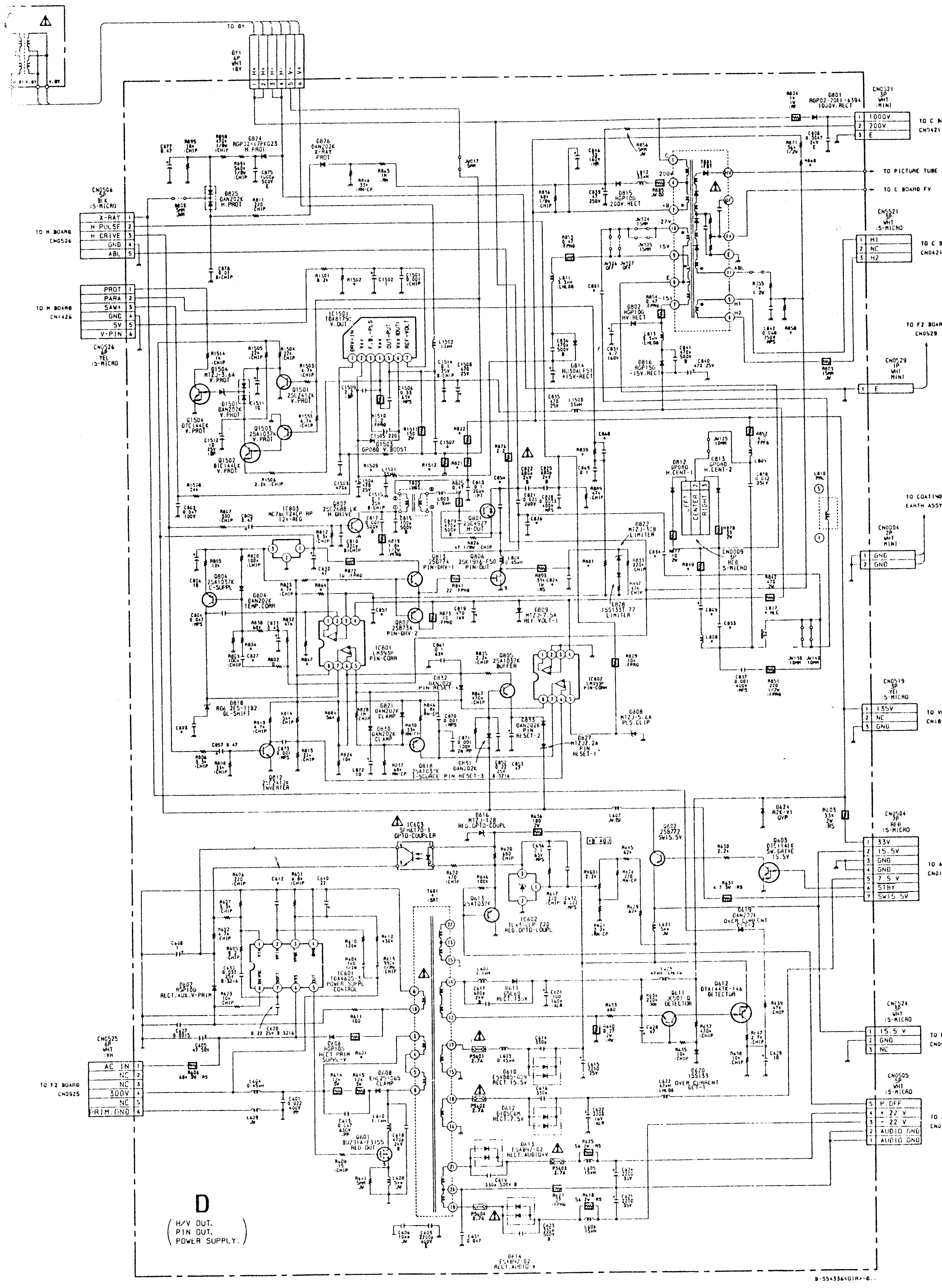
V
(TEXT)

8-554260<AEP>-V..


CN0931 5P WHT :VH
1 AC IN
2 NC
3 NC
4 NC
5 AC IN
TO F1 BOARD CN0831
LF661
LF662
LF663
C661 0.47 300V :AC
R663 1M 1/2W
R664 1.8 10W
C662 0.33 300V :AC
R669 1.8 10W
R665 8.2M 1W
C664 0.0022 400V
C668 1M
JW051 5MM
JW052 5MM
JW054 5MM
THP661
C672 0.0047 250V F
C673 0.0047 250V F
D663 D4SB60L-F MAIN-RECT
C674 220 400V
CN0925 6P WHT :VH
1 AC OUT
2 NC
3 NC
4 300V
5 NC
6 PRIM.GND
TO D BOARD CN0525
1 DGC CHK
2 DGC CHK
CN0007 2P WHT :MINI
1 DGC
2 NC
3 DGC
TO DGC
CN0005 3P WHT :MINI
1 GND
2 GND
3 GND
4 GND
TO D BOARD CN0529
CN0929 4P WHT :MINI
R671 680 :FPRD
D661 1SS133T HIGH-VOLT PROT
C666 220 25V
RY661
R666 100 :FPRD
D664 MTZJ-T-77-9.1 PROTECT
D662 DAN202K DISC-OFF,C666 AT.SW.OFF
R667 12k
R668 27k
C667 22
Q661 2SC2412K RELAY-SW
CN0924 3P WHT :S-MICRO
1 15.5V
2 GND
3 N.C.
TO D BOARD CN0524

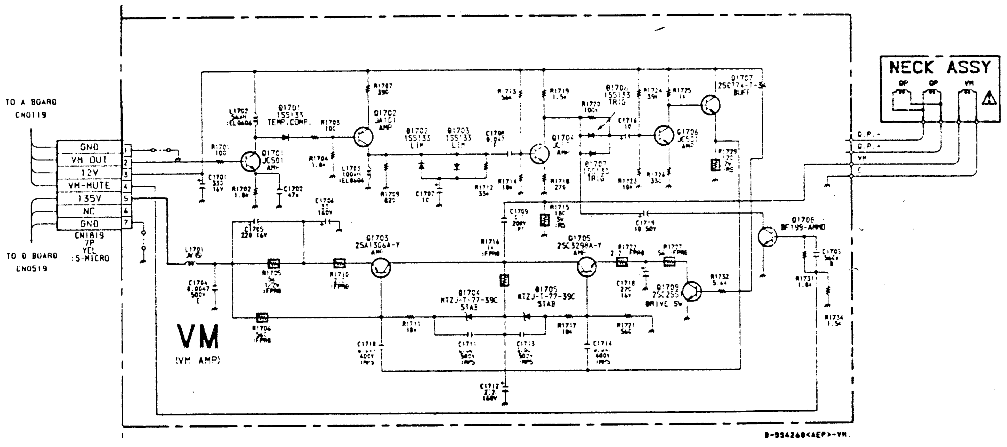
F2 (LINE FILTER RELAY SW.)

8-554254<ET.>-F2.


D
H/V OUT.
PIN OUT.
POWER SUPPLY.
TO H BOARD CN0506
X-RAY
H PULSE
H DRIVE
GND
ABL
TO H BOARD CN1426
PROT
PARA
SAW4
GND
5V
V-PIN
TO C BOARD CN5421
1000V
200V
E
TO PICTURE TUBE HV
TO C BOARD FV
TO C BOARD CN0421
H1
NC
H2
TO F2 BOARD CN0529
TO COATING EARTH ASSY
TO VM BOARD CN1819
135V
NC
GND
TO A BOARD CN0104
33V
15.5V
GND
GND
7.5 V
STBY
SW15.5V
TO F2 BOARD CN0924
15.5 V
GND
NC
TO A BOARD CN0105
P.OFF
+ 22 V
- 22 V
AUDIO GND
AUDIO GND
TO F2 BOARD CN0925
AC IN
NC
NC
300V
NC
PRIM.GND
IC1501 TDA8175 V.OUT
IC801 LM358N PIN-CORR
IC601 TDA4605-3 POWER SUPPL CONTROL
IC603 SFH6170-1 OPTO-COUPLER
IC602 TL431LP 220 REG.OPTO-COUPL
T601 SRT
T801 FBT
B-554336<01R>-0

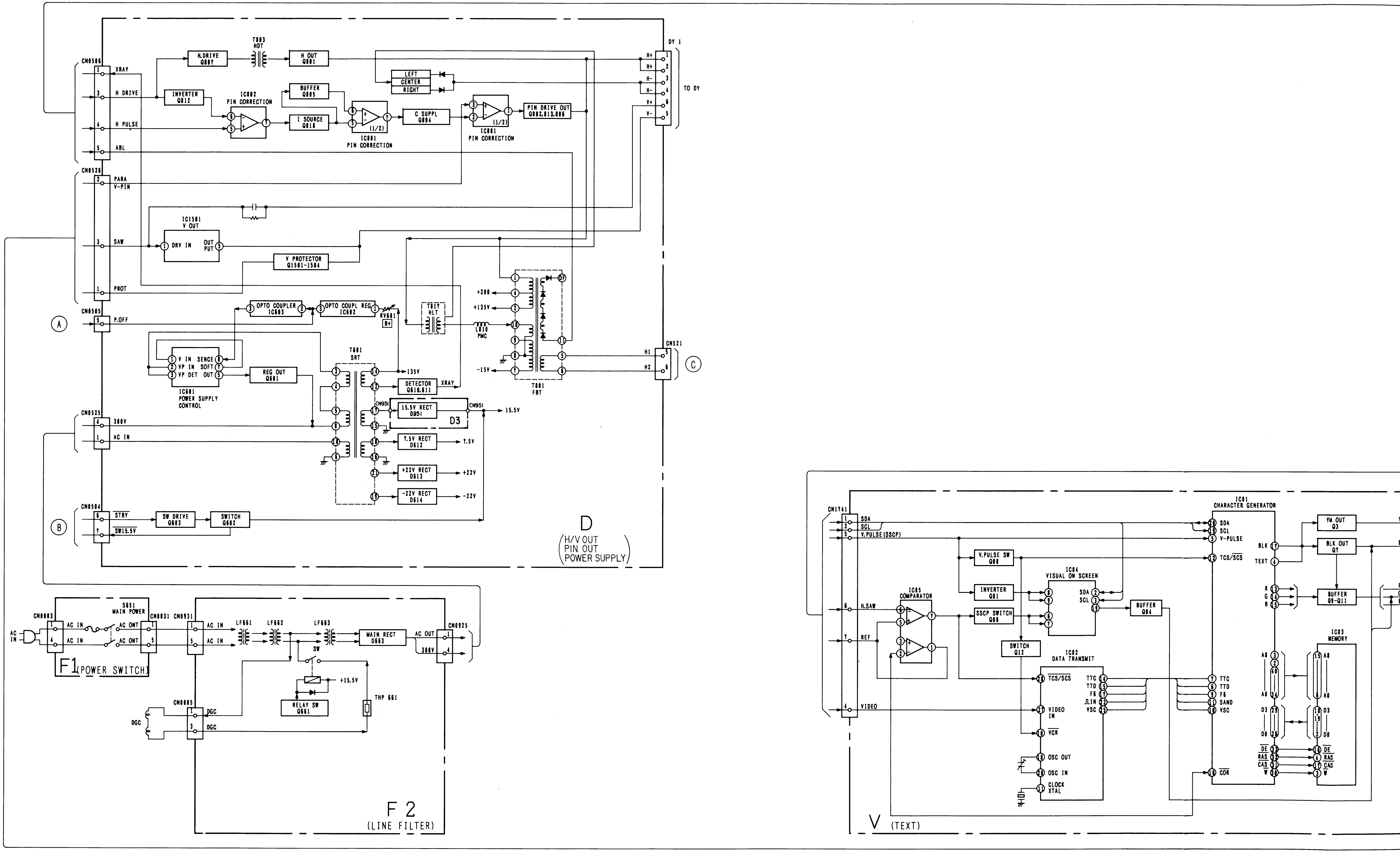
● D BOARD ✱ MARK

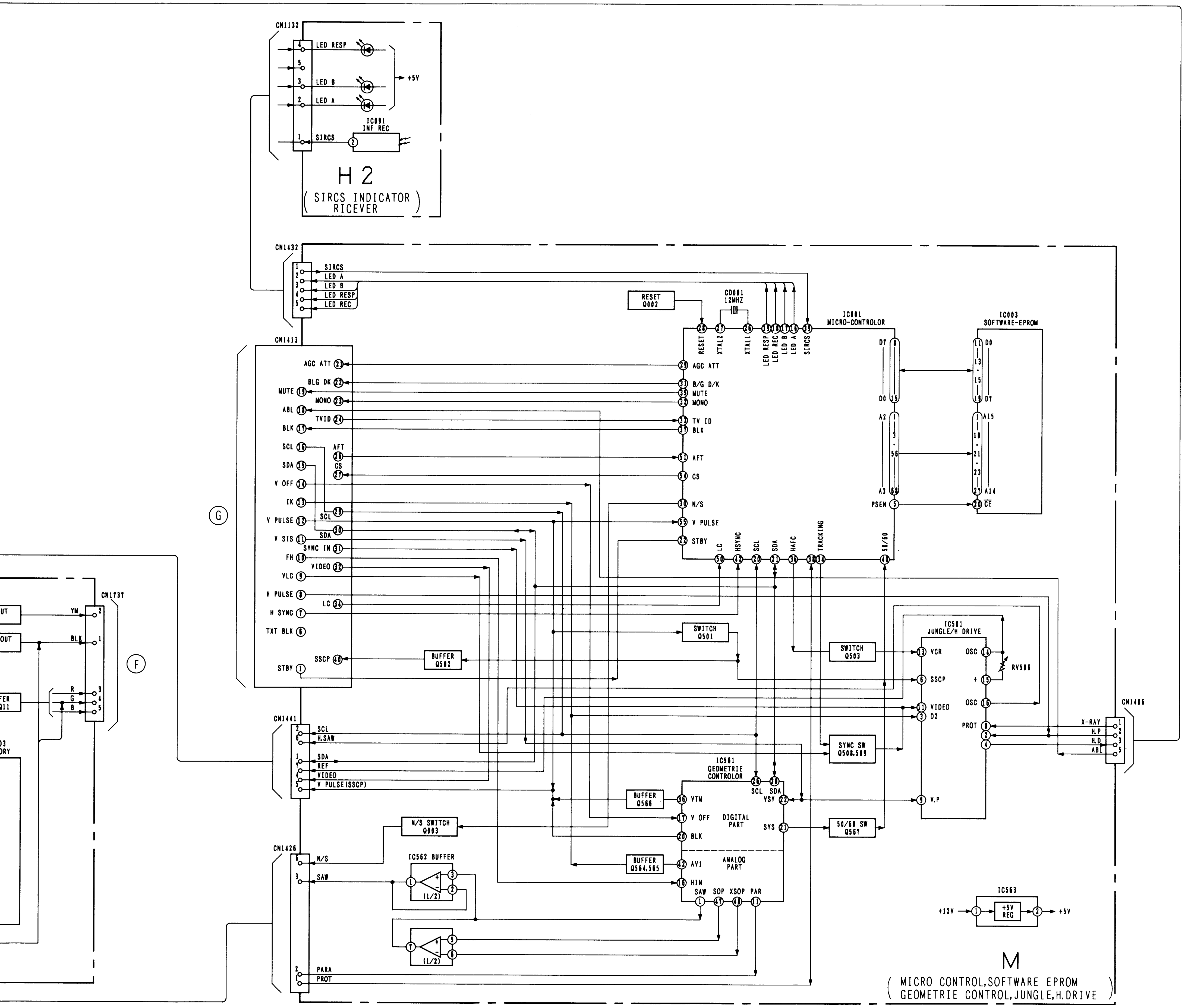
	21"	25"	29"
C612	0.0056	0.0056	0.0068
C801	-	1/200V	1/200V
C803	0.0012	0.0022	0.0022
C809	-	10/200V	10/200V
C824	0.0033	0.0047	0.0022
⚠C826	0.056/630V	0.068/630V	0.068/630V
C827	0.082/100V	0.047/100V	0.1/50V
C833	0.047/250V	1.8/200V	2.0/200V
C834	1.6/200V	0.62/200V	0.82/200V
C851	0.0047/400V	0.0047/400V	0.001/50V
⚠C854	330P/2KV	330P/2KV	560P/2KV
C866	0.001/400V	0.001/400V	-
C1507	0.22/100V	0.22/100V	0.27/100V
L808	-	1MMH	1MMH
R601	8.2/1W	8.2/1W	2.2/1W
R801	8.2K	6.8K	1.5K
R821	1.5K/3W	1.5K/3W	1.2K/3W
R822	1.5K/3W	1.5K/3W	1.2K/3W
R832	22K	47K	47K
R834	82K	330K	150K
R838	33K	56K	68K
R839	2.2K	1.8K	3.6K
R847	100K	100K	82K
R849	-	33/3W	15/2W
R858	2.2K	4.7K	4.7K
R864	27K	30K	15K
R868	39K	33K	15K
R1502	3.6K	3.9K	3.6K
R1509	47K	56K	47K
R1512	1.6/2W	1.5/2W	1.5/2W
⚠T601	S.R.T (SMT 7)	S.R.T (SMT 7)	S.R.T (SMT 69)


VM
(VM AMP)
NECK ASSY
TO A BOARD CN0119
TO D BOARD CN0519
CN1819 7P YEL S-MICRO
GND
VM OUT
12V
VM-MUTE
135V
NC
GND
B-554260<AEP>-VM

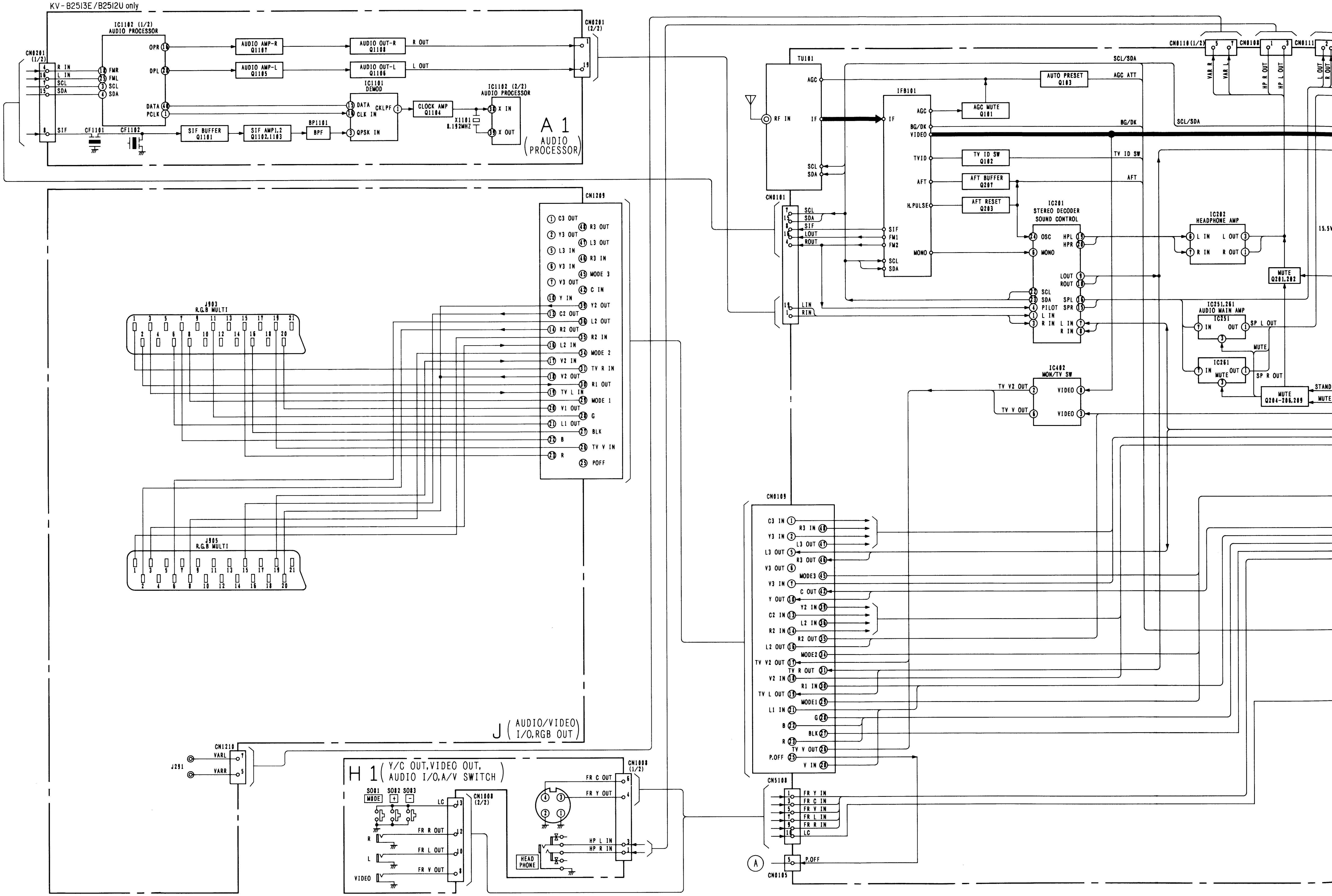
SECTION 5
DIAGRAMS

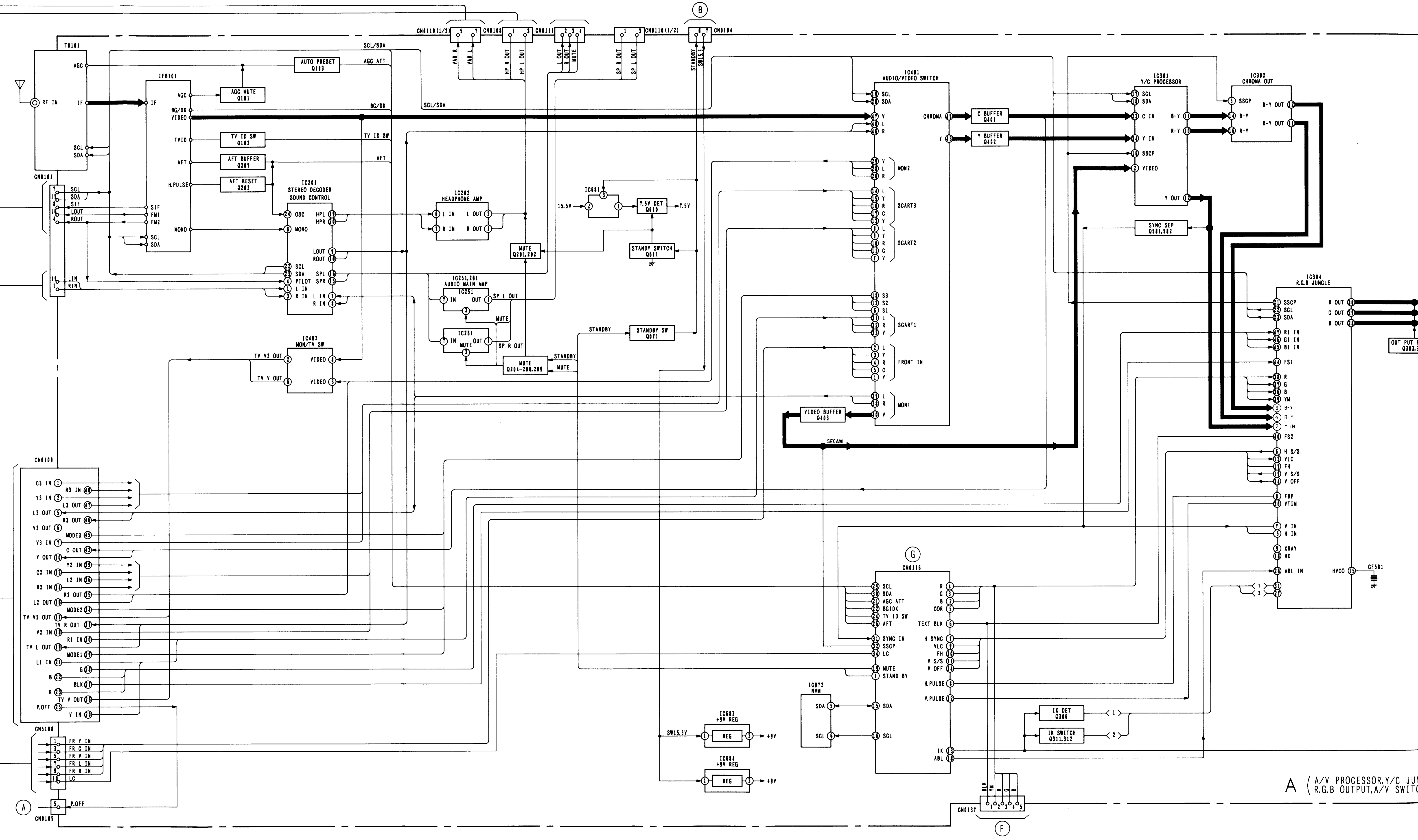
5-1. BLOCK DIAGRAM (1)

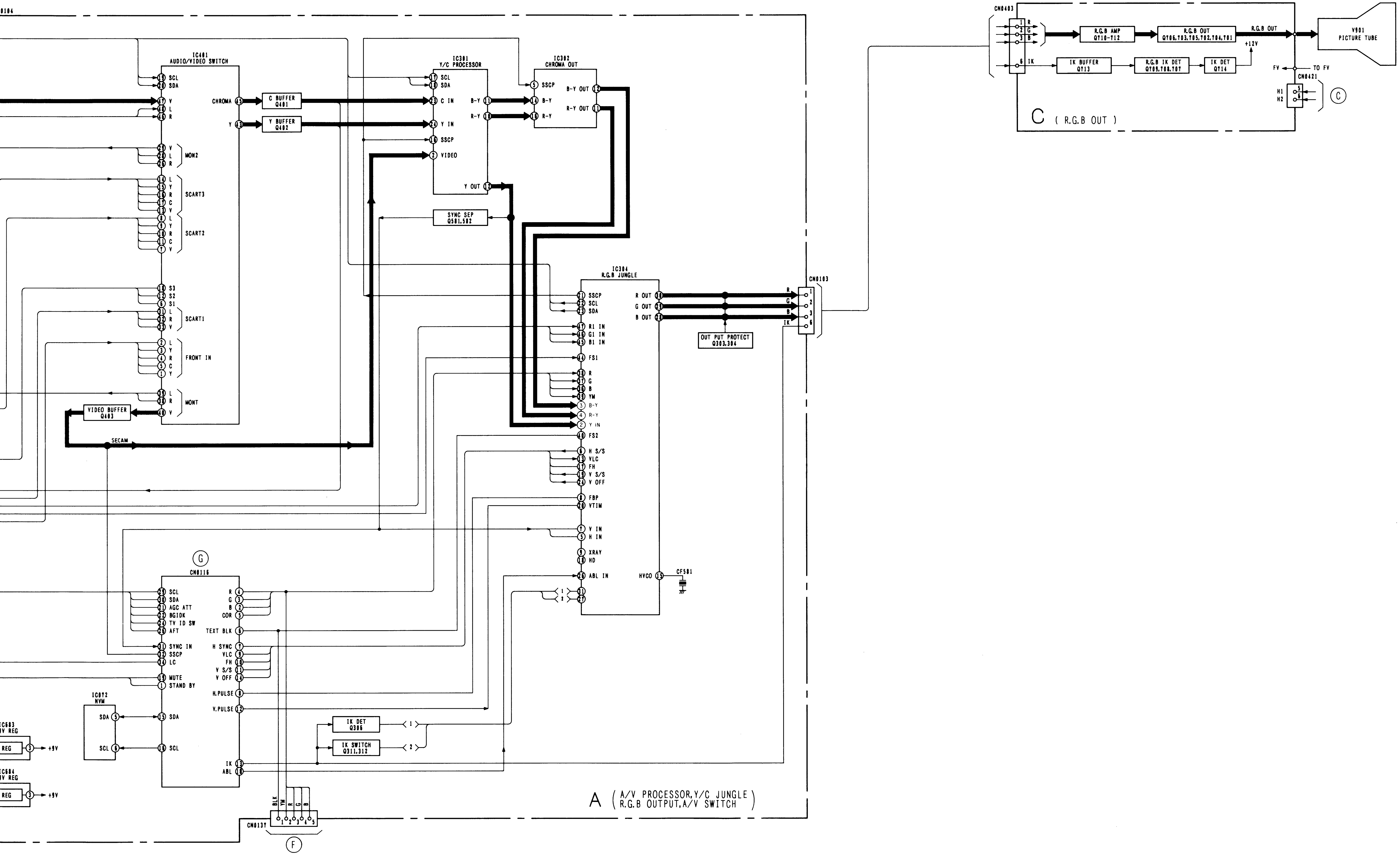

CN0506
XRAY
H DRIVE
H PULSE
ABL
H.DRIVE Q807
T803 HDT
H OUT Q801
INVERTER Q812
IC802 PIN CORRECTION
BUFFER Q805
I SOURCE Q810
C SUPPL Q804
IC801 PIN CORRECTION
(1/2)
LEFT
CENTER
RIGHT
PIN DRIVE OUT Q802,813,806
DY 1
H+
H-
V+
V-
TO DY
CN0526
PARA V-PIN
SAW
PROT
IC1501 V OUT
DRV IN
OUT PUT
V PROTECTOR Q1501-1504
CN0505
P.OFF
A
OPTO COUPLER IC603
OPTO COUPL REG IC602
RV601
B+
T817 HLT
L810 PMC
+200
+135V
-15V
T801 FBT
CN521
H1
H2
C
V IN SENCE
VP IN SOFT
VP DET OUT
IC601 POWER SUPPLY CONTROL
REG OUT Q601
T601 SRT
135V
DETECTOR Q610,611
XRAY
CN951
15.5V RECT D951
D3
15.5V
7.5V RECT D612
7.5V
+22V RECT D613
+22V
-22V RECT D614
-22V
CN0525
300V
AC IN
CN0504
STBY
SW15.5V
B
SW DRIVE Q603
SWITCH Q602
D
(H/V OUT PIN OUT POWER SUPPLY)
AC IN
CN0803
S651 MAIN POWER
AC ONT
CN0831
CN0931
F1 (POWER SWITCH)
LF661
LF662
LF663
MAIN RECT D663
AC OUT
300V
CN0925
SW
+15.5V
RELAY SW Q661
THP 661
CN0805
DGC
F 2 (LINE FILTER)
CN1741
SDA
SCL
V.PULSE (SSCP)
H.SAW
REF
VIDEO
IC05 COMPARATOR
V.PULSE SW Q08
INVERTER Q01
SSCP SWITCH Q06
SWITCH Q12
IC04 VISUAL ON SCREEN
BUFFER Q04
IC02 DATA TRANSMIT
TCS/SCS
VIDEO IN
VCR
OSC OUT
OSC IN
CLOCK XTAL
TTC
TTD
FS
ЛIN
VSC
IC01 CHARACTER GENERATOR
V-PULSE
TCS/SCS
BLK
TEXT
R
G
B
SAND
A8
A0
D3
D0
DE
RAS
CAS
W
COR
YM OUT Q3
BLK OUT Q7
BUFFER Q9-Q11
IC03 MEMORY
V (TEXT)


CN1132
LED RESP
LED B
LED A
+5V
IC001 INF REC
SIRCS
H 2
(SIRCS INDICATOR RICEVER)
CN1432
SIRCS
LED A
LED B
LED RESP
LED REC
CN1413
AGC ATT
BLG DK
MUTE
MONO
ABL
TVID
BLK
SCL
AFT
SDA
CS
V OFF
IK
V PULSE
V SIS
SYNC IN
FH
VIDEO
VLC
H PULSE
LC
H SYNC
TXT BLK
SSCP
STBY
G
F
CN1737
YM
BLK
R
G
B
RESET Q002
CD001 12MHZ
IC001 MICRO-CONTROLOR
RESET
XTAL2
XTAL1
LED RESP
LED REC
LED B
LED A
SIRCS
AGC ATT
B/G D/K
MUTE
MONO
TV ID
BLK
AFT
CS
N/S
V PULSE
STBY
LC
HSYNC
SCL
SDA
HAFC
TRACKING
50/60
D7
D0
A2
A3
PSEN
IC003 SOFTWARE-EPROM
D0
D7
A15
A14
CE
SWITCH Q501
BUFFER Q502
SWITCH Q503
IC501 JUNGLE/H DRIVE
VCR
OSC
SSCP
VIDEO
D2
PROT
V.P
RV506
CN1406
X-RAY
H.P
H.D
ABL
CN1441
SCL
H.SAW
SDA
REF
VIDEO
V PULSE(SSCP)
IC561 GEOMETRIE CONTROLOR
SCL SDA
VSY
VTM
V OFF
BLK
DIGITAL PART
SYS
BUFFER Q566
SYNC SW Q508,509
50/60 SW Q567
N/S SWITCH Q003
BUFFER Q564,565
AVI
ANALOG PART
HIN
SAW SOP XSOP PAR
CN1426
N/S
SAW
IC562 BUFFER
(1/2)
PARA
PROT
IC563
+12V
+5V REG
+5V
M
(MICRO CONTROL,SOFTWARE EPROM GEOMETRIE CONTROL,JUNGLE,H.DRIVE)

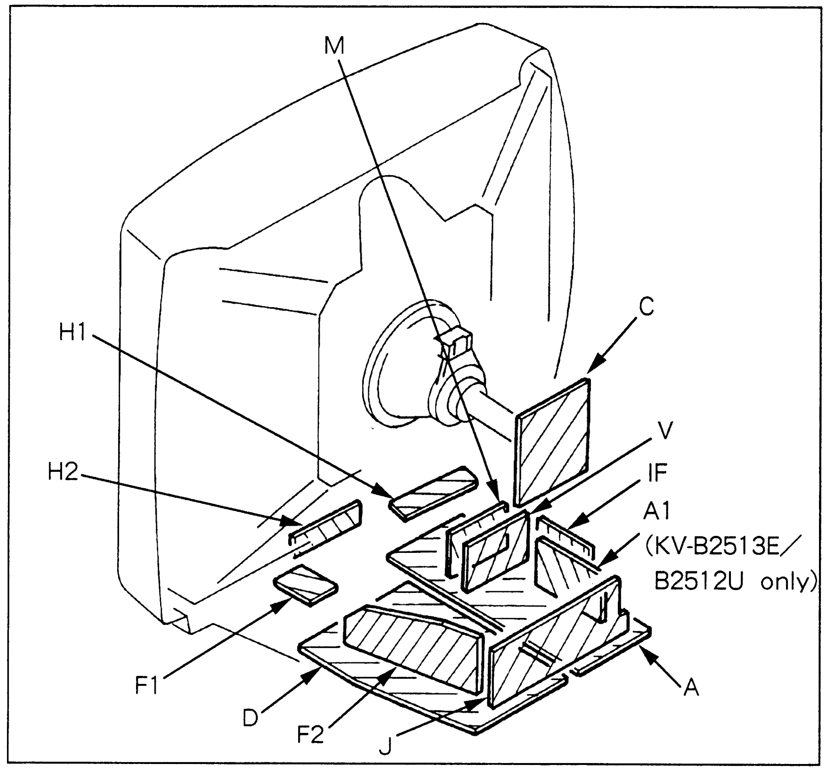
5-2. BLOCK DIAGRAM (2)


KV-B2513E/B2512U only
IC1102 (1/2) AUDIO PROCESSOR
AUDIO AMP-R Q1107
AUDIO OUT-R Q1108
R OUT
AUDIO AMP-L Q1105
AUDIO OUT-L Q1106
L OUT
IC1101 DEMOD
CLOCK AMP Q1104
IC1102 (2/2) AUDIO PROCESSOR
X1101 8.192MHZ
X IN
X OUT
CN0201 (1/2)
CN0201 (2/2)
R IN
L IN
SCL
SDA
SIF
FMR
FML
OPR
DPL
DATA
PCLK
CLK IN
CKLPF
QPSK IN
CF1101
CF1102
SIF BUFFER Q1101
SIF AMP1,2 Q1102,1103
BP1101 BPF
A 1 (AUDIO PROCESSOR)
CN1209
C3 OUT
Y3 OUT
L3 IN
V3 IN
V3 OUT
Y IN
C2 OUT
R2 OUT
L2 IN
V2 IN
V2 OUT
TV L IN
V1 OUT
L1 OUT
B
R
R3 OUT
L3 OUT
R3 IN
MODE 3
C IN
Y2 OUT
L2 OUT
R2 IN
MODE 2
TV R IN
R1 OUT
MODE 1
G
BLK
TV V IN
POFF
J903 R.G.B MULTI
J905 R.G.B MULTI
J (AUDIO/VIDEO I/O,RGB OUT)
CN1210
J291
VARL
VARR
H 1 (Y/C OUT,VIDEO OUT, AUDIO I/O,A/V SWITCH)
S081 MODE
S082 +
S083 −
LC
FR R OUT
FR L OUT
FR V OUT
VIDEO
CN1008 (2/2)
CN1008 (1/2)
FR C OUT
FR Y OUT
HP L IN
HP R IN
HEAD PHONE
TU101
AGC
IF
RF IN
SCL
SDA
IFB101
BG/DK
VIDEO
TVID
AFT
H.PULSE
MONO
SIF
FM1
FM2
AGC MUTE Q101
AUTO PRESET Q103
AGC ATT
SCL/SDA
TV ID SW Q102
AFT BUFFER Q207
AFT RESET Q203
TV ID SW
IC201 STEREO DECODER SOUND CONTROL
OSC
HPL
HPR
LOUT
ROUT
SPL
SPR
PILOT
L IN
R IN
IC202 HEADPHONE AMP
MUTE Q201,202
IC251,261 AUDIO MAIN AMP
IC251
IC261
SP L OUT
SP R OUT
MUTE
MUTE Q204-206,209
STAND
IC402 MON/TV SW
TV V2 OUT
TV V OUT
CN0101
LIN
RIN
CN0110 (1/2)
CN0100
CN0111
VAR R
VAR L
HP R OUT
HP L OUT
15.5V
CN0109
C3 IN
Y3 IN
L3 OUT
V3 OUT
V3 IN
Y OUT
C2 IN
R2 IN
L2 OUT
TV V2 OUT
V2 IN
TV L OUT
L1 IN
P.OFF
R3 IN
L3 OUT
R3 OUT
MODE3
C OUT
Y2 IN
L2 IN
R2 OUT
MODE2
TV R OUT
R1 IN
MODE1
TV V OUT
V IN
CN5108
FR Y IN
FR C IN
FR V IN
FR L IN
FR R IN
LC
CN0105
P.OFF
A


TU101
AGC
RF IN
IF
SCL
SDA
IFB101
AGC MUTE Q101
AUTO PRESET Q103
AGC ATT
SCL/SDA
BG/DK
VIDEO
TVID
TV ID SW Q102
AFT
AFT BUFFER Q207
AFT RESET Q203
H.PULSE
MONO
SIF
FM1
FM2
CN0101
IC201 STEREO DECODER SOUND CONTROL
OSC
HPL
HPR
LOUT
ROUT
PILOT
SPL
SPR
L IN
R IN
IC202 HEADPHONE AMP
L OUT
R OUT
IC251,261 AUDIO MAIN AMP
IC251
IC261
SP L OUT
SP R OUT
MUTE
MUTE Q201,202
MUTE Q204-206,209
STANDBY
IC402 MON/TV SW
TV V2 OUT
TV V OUT
IC601
15.5V
7.5V DET Q610
7.5V
STANDY SWITCH Q611
STANDBY SW Q671
CN0110(1/2)
CN0108
CN0111
CN0104
VAR R
VAR L
HP R OUT
HP L OUT
L OUT
R OUT
SP R OUT
SP L OUT
STANDBY
SW15.5
B
IC401 AUDIO/VIDEO SWITCH
CHROMA
C BUFFER Q401
Y BUFFER Q402
MON2
SCART3
SCART2
SCART1
FRONT IN
MONT
S3
S2
S1
VIDEO BUFFER Q403
SECAM
IC301 Y/C PROCESSOR
C IN
Y IN
SSCP
B-Y
R-Y
Y OUT
IC302 CHROMA OUT
B-Y OUT
R-Y OUT
SYNC SEP Q501,502
IC304 R.G.B JUNGLE
R OUT
G OUT
B OUT
OUT PUT
R1 IN
G1 IN
B1 IN
FS1
FS2
YM
H S/S
VLC
FH
V S/S
V OFF
FBP
VTIM
V IN
H IN
XRAY
HD
ABL IN
HVCO
CF501
CN0109
C3 IN
Y3 IN
L3 OUT
V3 OUT
V3 IN
Y OUT
C2 IN
R2 IN
L2 OUT
TV V2 OUT
V2 IN
TV L OUT
L1 IN
R3 IN
L3 OUT
R3 OUT
MODE3
C OUT
Y2 IN
L2 IN
R2 OUT
MODE2
TV R OUT
R1 IN
MODE1
G
B
BLK
R
TV V OUT
P.OFF
V IN
CN5108
FR Y IN
FR C IN
FR V IN
FR L IN
FR R IN
LC
A
CN0105
G
CN0116
AGC ATT
BGIDK
TV ID SW
SYNC IN
STAND BY
COR
TEXT BLK
H SYNC
H.PULSE
V.PULSE
IK
ABL
IC072 NVM
IC603 +9V REG
IC604 +9V REG
REG
SW15.5V
+9V
IK DET Q306
IK SWITCH Q311,312
CN0137
F
BLK
YM
A (A/V PROCESSOR,Y/C JU
R.G.B OUTPUT,A/V SWITC


IC401
AUDIO/VIDEO SWITCH
SCL
SDA
CHROMA
C BUFFER Q401
Y BUFFER Q402
MON2
SCART3
SCART2
SCART1
FRONT IN
MONT
VIDEO BUFFER Q403
SECAM
IC301
Y/C PROCESSOR
C IN
Y IN
SSCP
VIDEO
B-Y
R-Y
Y OUT
SYNC SEP Q501,502
IC302
CHROMA OUT
B-Y OUT
R-Y OUT
IC304
R.G.B JUNGLE
R OUT
G OUT
B OUT
R1 IN
G1 IN
B1 IN
FS1
YM
FS2
H S/S
VLC
FH
V S/S
V OFF
FBP
VTIM
V IN
H IN
XRAY
HD
ABL IN
HVCO
CF501
OUT PUT PROTECT Q303,304
CN0103
IK
G
CN0116
AGC ATT
BGIDK
TV ID SW
AFT
SYNC IN
LC
MUTE
STAND BY
COR
TEXT BLK
H SYNC
H.PULSE
V.PULSE
ABL
IC072
NVM
IC083
V REG
IC084
V REG
REG
+9V
IK DET Q306
IK SWITCH Q311,312
BLK
CN0137
F
A (A/V PROCESSOR,Y/C JUNGLE R.G.B OUTPUT,A/V SWITCH)
CN0403
R.G.B AMP Q710-712
R.G.B OUT Q706,703,705,702,704,701
R.G.B OUT
+12V
V901
PICTURE TUBE
IK BUFFER Q713
R.G.B IK DET Q709,708,707
IK DET Q714
FV
TO FV
CN0421
H1
H2
C
C (R.G.B OUT)

5-3. CIRCUIT BOARDS LOCATION


M
H1
C
H2
V
IF
A1
(KV-B2513E/
B2512U only)
F1
D
F2
J
A

Reference information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

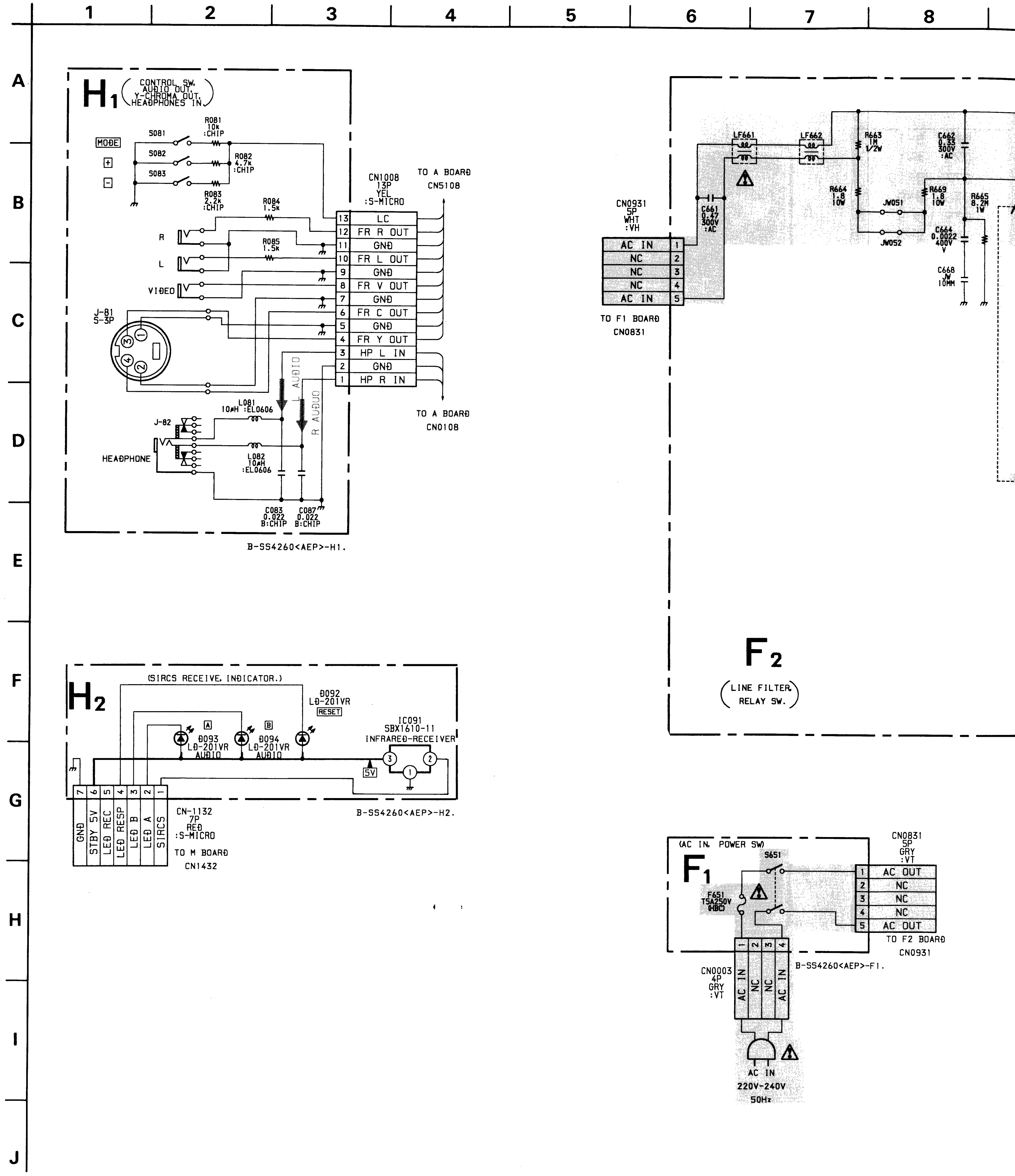
5-4. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in μF unless otherwise noted.
  pF : μμF 50WV or less are not indicated except for electrolytic.
- Indication of resistance, which dose not have one for rating electrical power, is as follows.

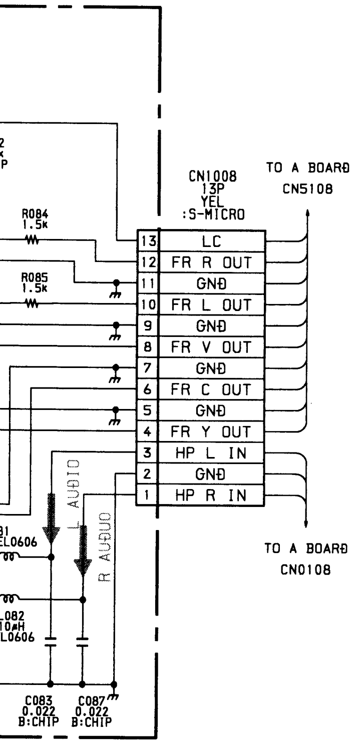
Pitch : 5mm
Rating electrical power : ¼W

- Chip resistor is in 1/10W.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000KΩ
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- ▭ : panel designation or adjustment for repair.
- All variable and adjustable resistors have charactristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ━ : B + bus.
- ╍ : B − bus.
- ➡ : signal path.(RF)
- ⊥ : earth - ground
- ⏚ : earth - chassis

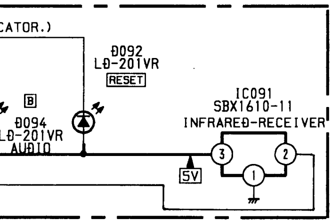

1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
H1
CONTROL SW. AUDIO OUT. Y-CHROMA OUT. HEADPHONES IN.
MODE
+
−
S081
S082
S083
R081 10k :CHIP
R082 4.7k :CHIP
R083 2.2k :CHIP
R084 1.5k
R085 1.5k
R
L
VIDEO
J-81 S-3P
J-82
HEADPHONE
L081 10μH :EL0606
L082 10μH :EL0606
L AUDIO
R AUDIO
C083 0.022 B:CHIP
C087 0.022 B:CHIP
CN1008 13P YEL :S-MICRO
13 LC
12 FR R OUT
11 GND
10 FR L OUT
9 GND
8 FR V OUT
7 GND
6 FR C OUT
5 GND
4 FR Y OUT
3 HP L IN
2 GND
1 HP R IN
TO A BOARD CN5108
TO A BOARD CN0108
B-SS4260<AEP>-H1.
H2
(SIRCS RECEIVE. INDICATOR.)
D092 LD-201VR
RESET
A
B
D093 LD-201VR AUDIO
D094 LD-201VR AUDIO
IC091 SBX1610-11 INFRARED-RECEIVER
5V
7 GND
6 STBY 5V
5 LED REC
4 LED RESP
3 LED B
2 LED A
1 SIRCS
CN-1132 7P RED :S-MICRO
TO M BOARD CN1432
B-SS4260<AEP>-H2.
CN0931 5P WHT :VH
1 AC IN
2 NC
3 NC
4 NC
5 AC IN
TO F1 BOARD CN0831
LF661
LF662
C661 0.47 300V :AC
R663 1M 1/2W
R664 1.8 10W
JW051
JW052
R669 1.8 10W
C662 0.33 300V :AC
R665 8.2M 1W
C664 0.0022 400V V
C668 JW 10MM
F2
LINE FILTER. RELAY SW.
(AC IN. POWER SW)
F1
S651
F651 T5A250V (HBC)
CN0831 5P GRY :VT
1 AC OUT
2 NC
3 NC
4 NC
5 AC OUT
TO F2 BOARD CN0931
CN0003 4P GRY :VT
AC IN
NC
NC
AC IN
AC IN 220V-240V 50Hz
B-SS4260<AEP>-F1.

H1 [CONTROL SW, AUDIO OUT, Y-CHROMA OUT, HEADPHONE IN] **H2** [SIRCS RECEIVE INDICATOR

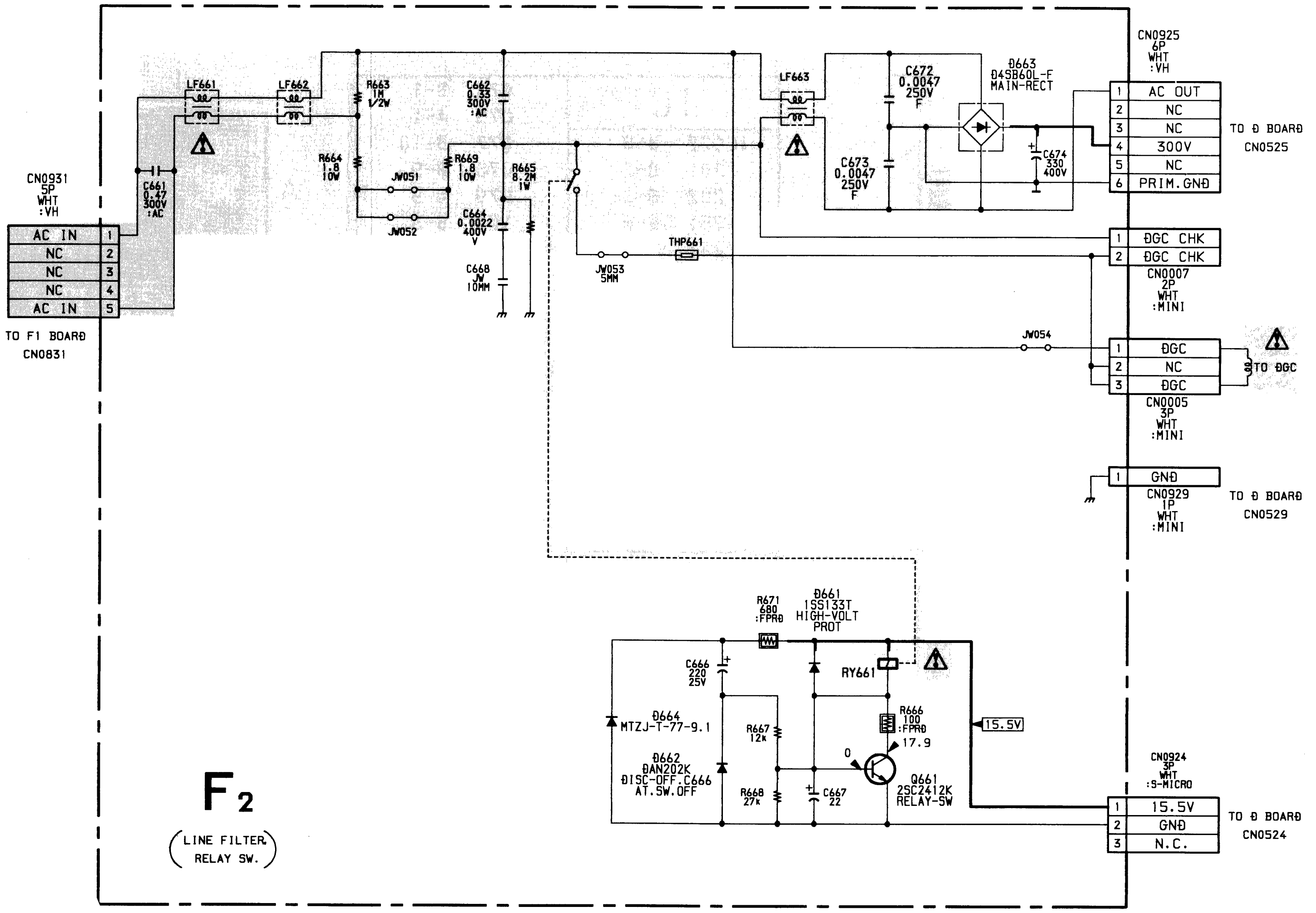
3 4 5 6 7 8 9 10 11 12 13


CN1008
13P
YEL
:S-MICRO
TO A BOARD
CN5108
R084 1.5k
R085 1.5k
13 LC
12 FR R OUT
11 GND
10 FR L OUT
9 GND
8 FR V OUT
7 GND
6 FR C OUT
5 GND
4 FR Y OUT
3 HP L IN
2 GND
1 HP R IN
L AUDIO
R AUDIO
TO A BOARD
CN0108
C083 0.022 B:CHIP
C087 0.022 B:CHIP

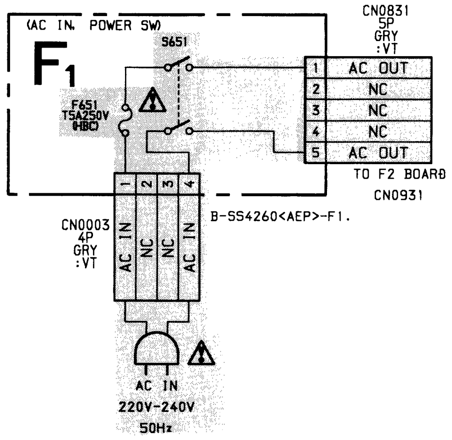
B-SS4260<AEP>-H1.


CATOR.)
D092
LD-201VR
RESET
IC091
SBX1610-11
INFRARED-RECEIVER
D094
LD-201VR
AUDIO
5V

B-SS4260<AEP>-H2.

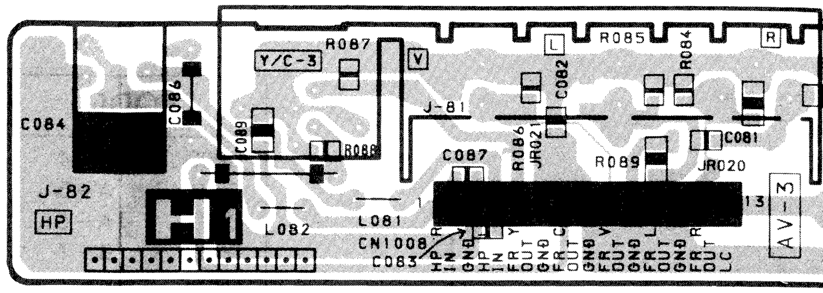

CN0931
5P
WHT
:VH
AC IN
NC
NC
NC
AC IN
TO F1 BOARD
CN0831
LF661
LF662
C661 0.47 300V :AC
R663 1M 1/2W
C662 0.33 300V :AC
R664 1.8 10W
JW051
JW052
R669 1.8 10W
R665 8.2M 1W
C664 0.0022 400V
C668 3W 10MM
JW053 5MM
THP661
LF663
C672 0.0047 250V F
C673 0.0047 250V F
D663 D4SB60L-F MAIN-RECT
C674 330 400V
CN0925
6P
WHT
:VH
AC OUT
NC
NC
300V
NC
PRIM.GND
TO D BOARD
CN0525
DGC CHK
DGC CHK
CN0007
2P
WHT
:MINI
JW054
DGC
NC
DGC
CN0005
3P
WHT
:MINI
TO DGC
GND
CN0929
1P
WHT
:MINI
TO D BOARD
CN0529
R671 680 :FPRD
D661 1SS133T HIGH-VOLT PROT
C666 220 25V
RY661
D664 MTZJ-T-77-9.1
R667 12k
R666 100 :FPRD
17.9
15.5V
D662 DAN202K DISC-OFF.C666 AT.SW.OFF
R668 27k
C667 22
Q661 2SC2412K RELAY-SW
CN0924
3P
WHT
:S-MICRO
15.5V
GND
N.C.
TO D BOARD
CN0524
F2
LINE FILTER RELAY SW.

B-SS4260<AEP>-F2.

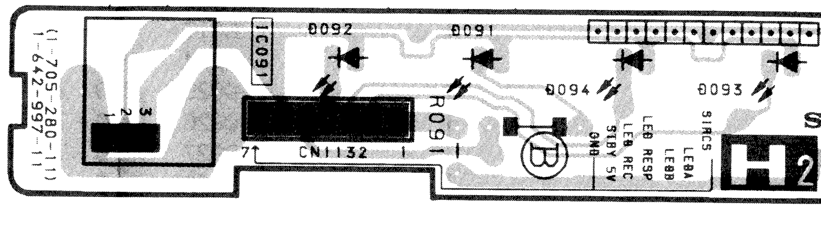

(AC IN, POWER SW)
F1
S651
F651
T5A250V
CN0831
5P
GRY
:VT
AC OUT
NC
NC
NC
AC OUT
TO F2 BOARD
CN0931
CN0003
4P
GRY
:VT
AC IN
NC
NC
AC IN
AC IN
220V-240V
50Hz

B-SS4260<AEP>-F1.

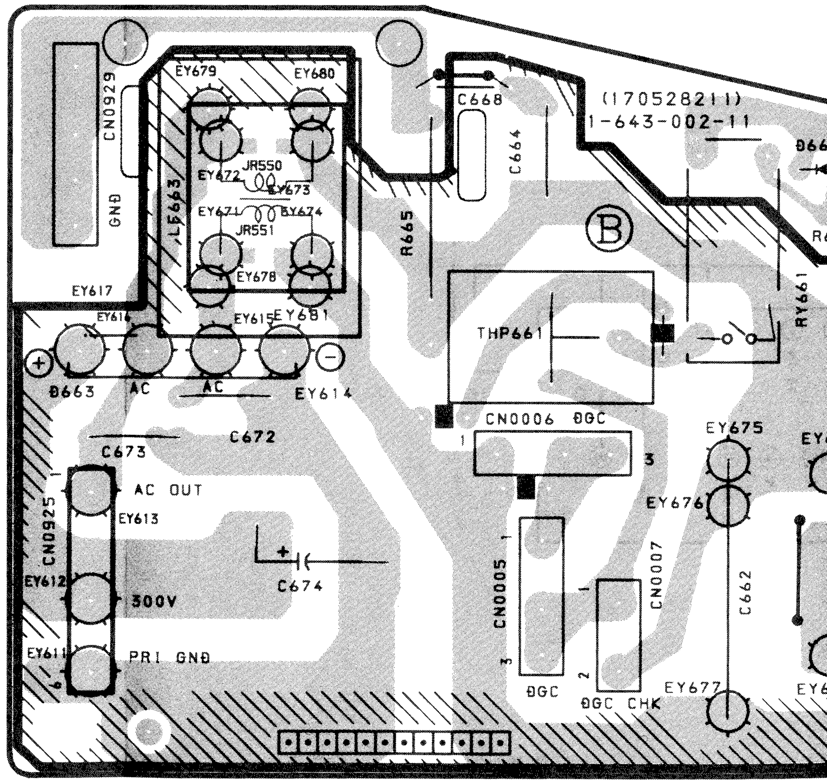
- H1 BOARD -

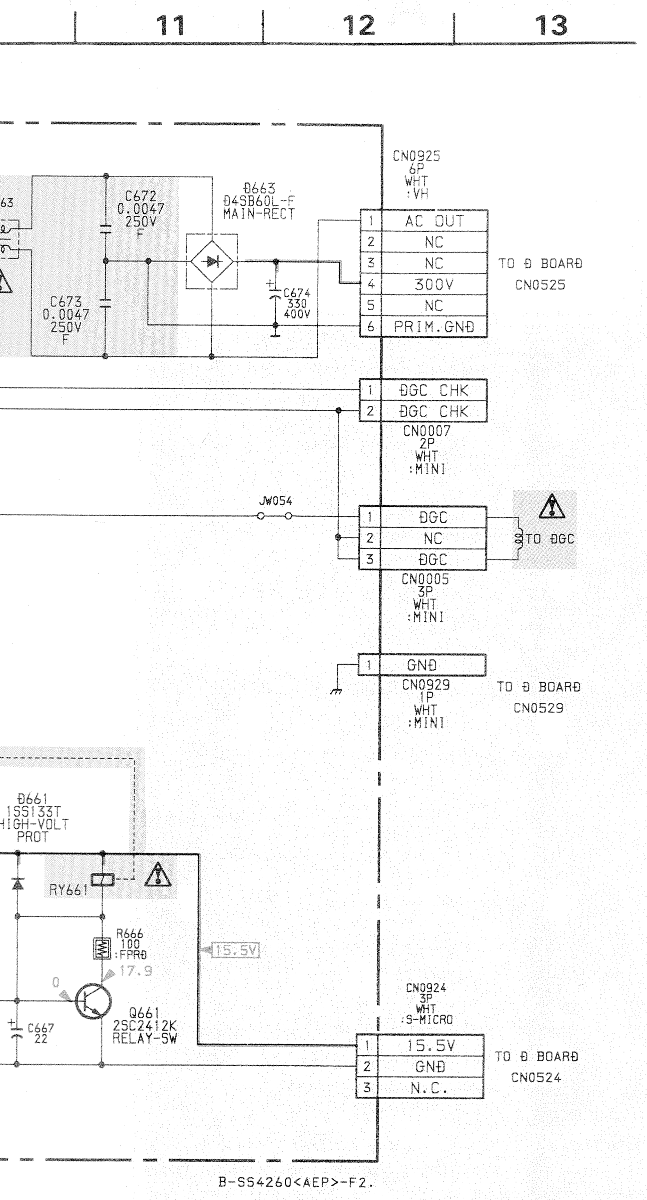

R087
Y/C-3
R085
R084
C084
C086
C089
J-81
C082
R086
JR021
C087
R089
C081
JR020
J-82
HP
H1
L082
L081
CN1008
C083
R088
AV-3

- H2 BOARD -


1-705-280-11
IC091
D092
D091
D094
D093
R091
CN1132
H2
SIRCS

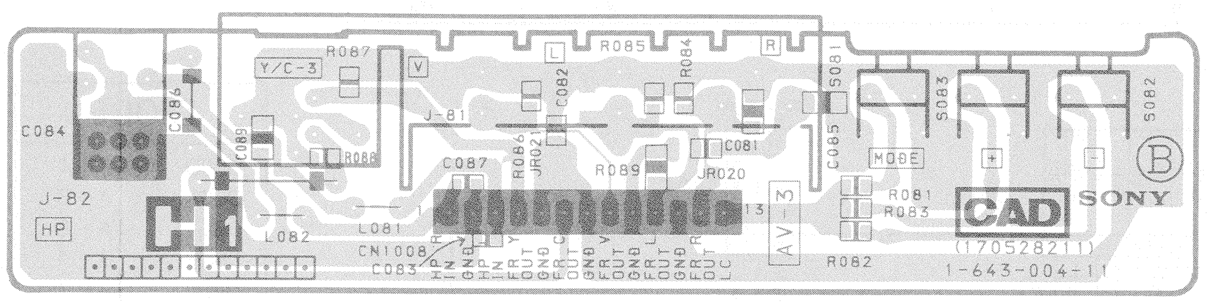
- F2 BOARD -


EY679
EY680
C668
(17052821)
1-643-002-11
CN0929
GND
LF663
JR550
EY672
EY673
EY671
EY674
JR551
C664
R665
EY678
EY617
EY616
EY615
EY681
THP661
RY661
D663
AC
AC
EY614
C673
C672
CN0006 DGC
AC OUT
EY613
CN0925
EY612
300V
C674
CN0005
CN0007
C662
EY675
EY676
EY611
PRI GND
DGC
DGC CHK
EY677

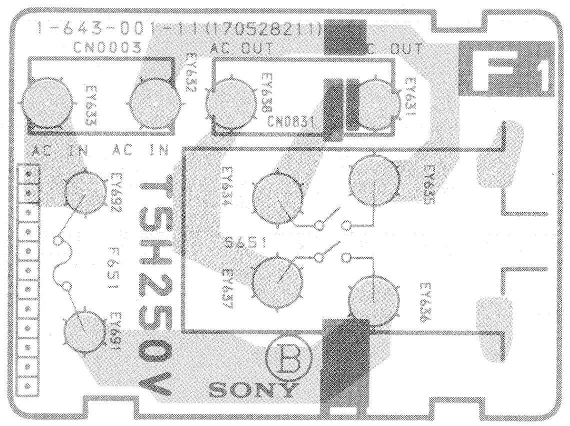

11
12
13
CN0925
6P
WHT
:VH
C672
0.0047
250V
F
D663
D4SB60L-F
MAIN-RECT
C673
0.0047
250V
F
C674
330
400V
AC OUT
NC
NC
300V
NC
PRIM.GND
TO D BOARD
CN0525
DGC CHK
DGC CHK
CN0007
2P
WHT
:MINI
JW054
DGC
NC
DGC
CN0005
3P
WHT
:MINI
TO DGC
GND
CN0929
1P
WHT
:MINI
TO D BOARD
CN0529
D661
1SS133T
HIGH-VOLT
PROT
RY661
R666
100
:FPRD
15.5V
17.9
0
C667
22
Q661
2SC2412K
RELAY-SW
CN0924
3P
WHT
:S-MICRO
15.5V
GND
N.C.
TO D BOARD
CN0524
B-SS4260<AEP>-F2.

H1 [CONTROL SW, AUDIO OUT, Y-CHROMA OUT, HEADPHONE IN] **H2** [SIRCS RECEIVER, INDICATOR] **F1** [AC IN, POWER SW] **F2** [LINE FILTER, RELAY SW]

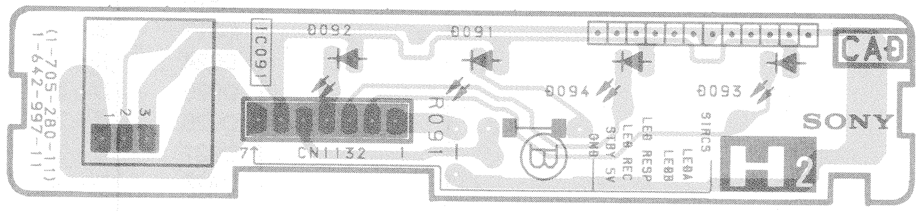
– H1 BOARD –


R087
Y/C-3
V
R085
L
R
S081
R084
C086
C084
J-81
C082
JR021
S083
S082
C089
R088
C087
R086
R089
C081
JR020
C085
MODE
+
–
J-82
13
AV-3
R081
R083
CAD
SONY
HP
H1
L082
L081
CN1008
C083
R082
(1705282 11)
1-643-004-11

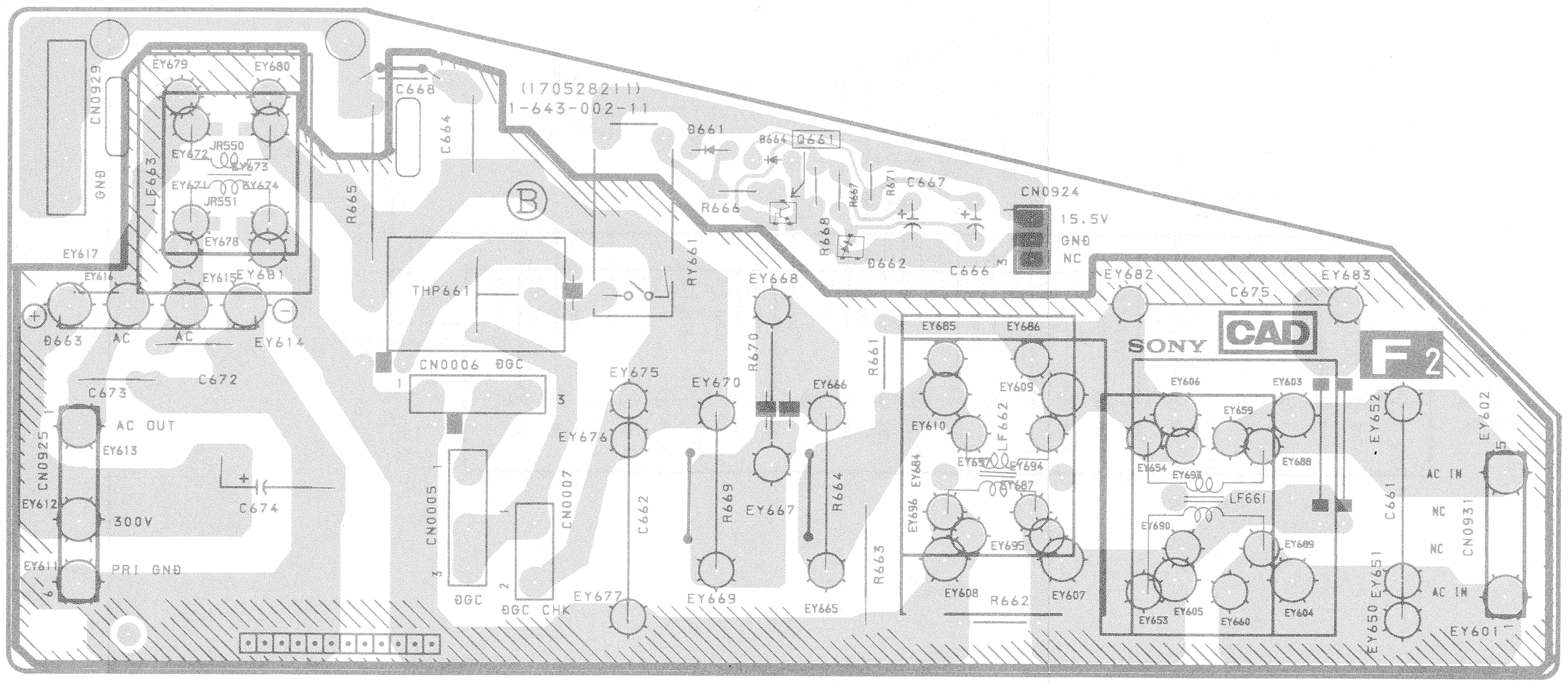
– F1 BOARD –


1-643-001-11(170528211)
CN0003
AC OUT
C OUT
EY633
EY632
EY638
CN0831
EY631
F1
AC IN
AC IN
EY692
TSH250V
EY634
EY635
S651
F651
EY637
EY691
EY636
SONY

– H2 BOARD –

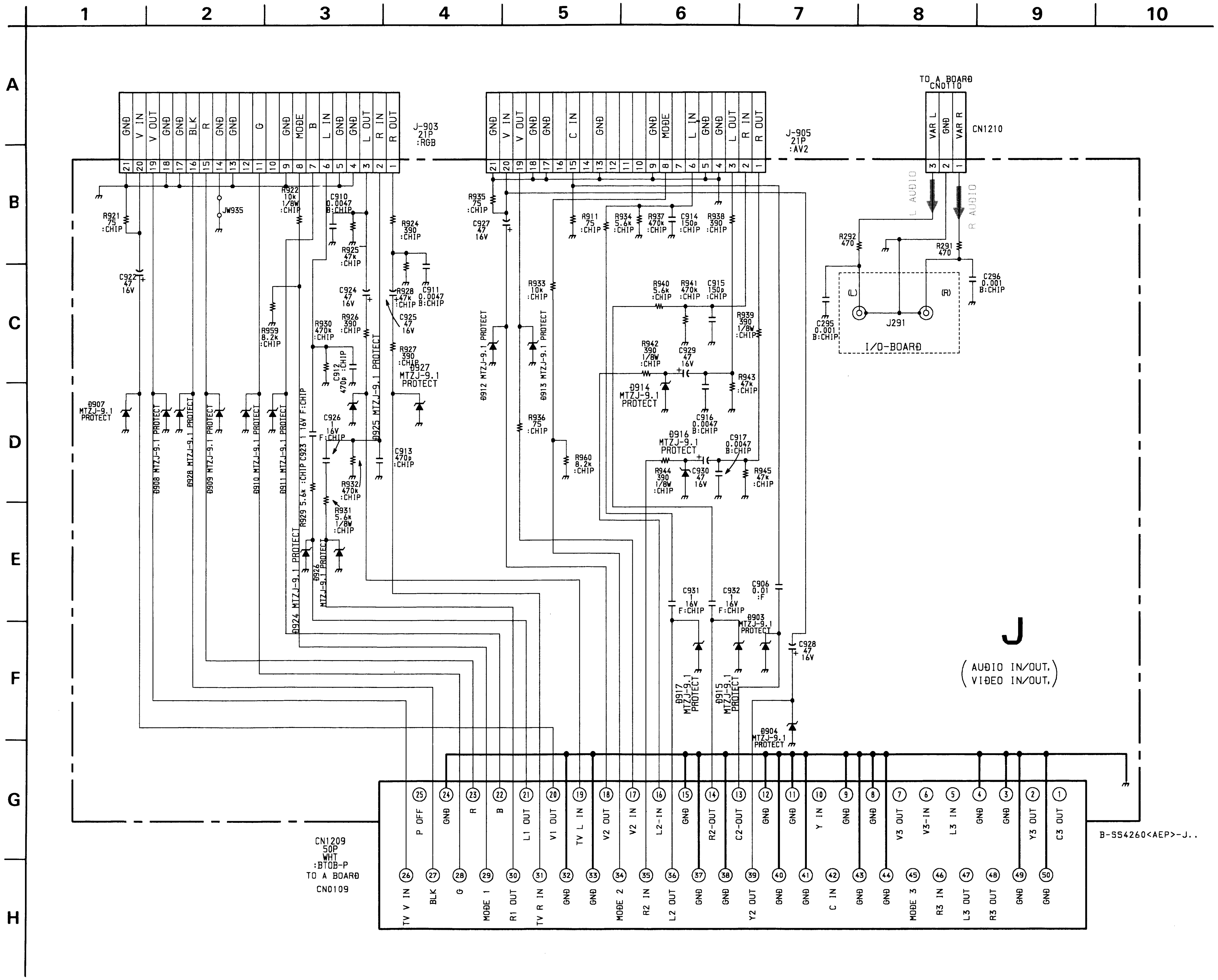

(1-705-280-11)
1-642-995-11
IC091
D092
D091
CAD
D094
D093
SONY
CN1132
R091
H2

– F2 BOARD –


CN0929
GND
EY679
EY680
C668
(170528211)
1-643-002-11
C664
D661
R664
Q661
JR550
EY672
EY673
LF663
EY671
EY674
JR551
R665
R666
R667
R671
C667
CN0924
15.5V
GND
NC
R668
EY678
EY617
RY661
D662
C666
EY616
EY615
EY681
THP661
EY668
EY682
C675
EY683
D663
AC
AC
EY614
EY685
EY686
SONY
CAD
F2
CN0006 DGC
R670
R661
C673
C672
EY675
EY670
EY666
EY609
EY606
EY603
AC OUT
EY613
EY610
LF662
EY659
EY652
EY602
CN0925
EY676
EY697
EY694
EY654
EY693
EY688
AC IN
EY612
C674
EY684
EY687
LF661
C661
NC
300V
CN0005
CN0007
C662
R669
EY667
R664
EY696
EY695
EY690
NC
CN0931
EY611
PRI GND
R663
EY689
EY651
DGC
DGC CHK
EY677
EY669
EY665
EY608
R662
EY607
EY653
EY605
EY660
EY604
EY650
AC IN
EY601

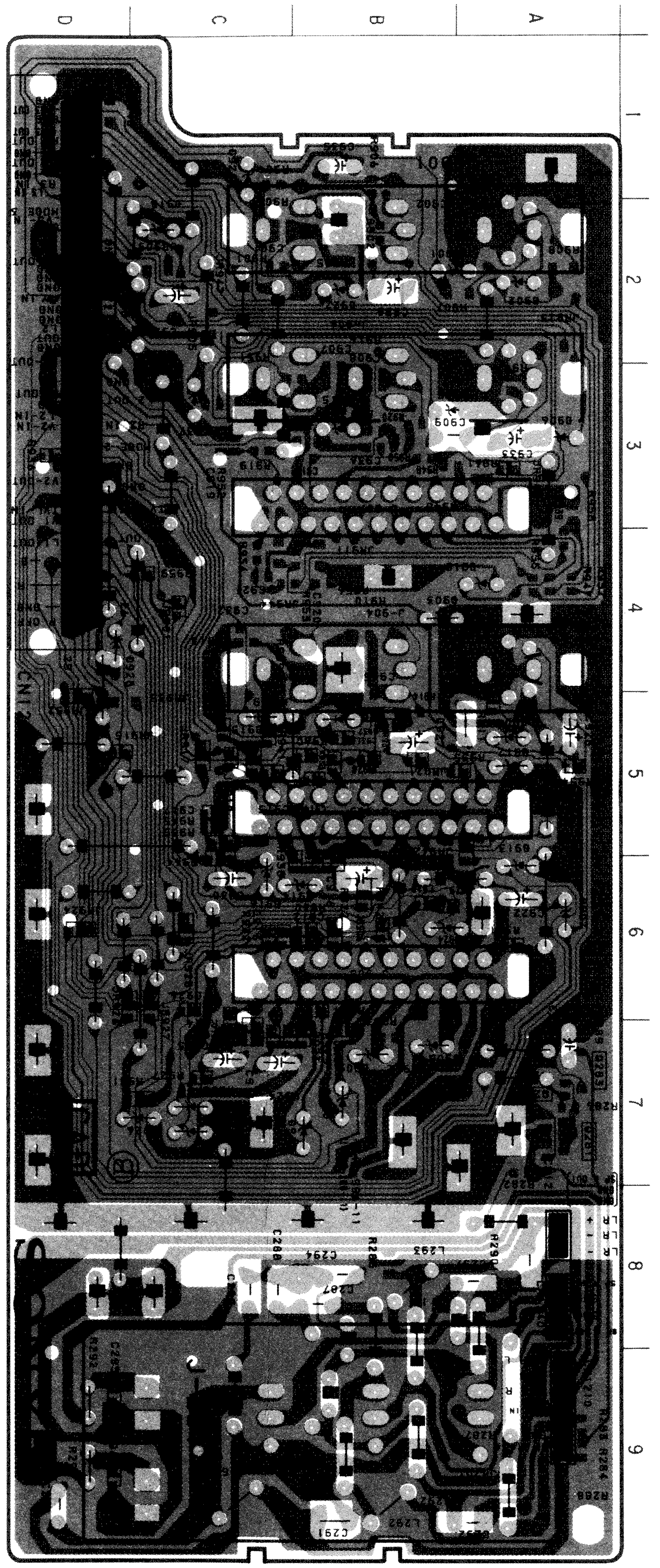
J [AUDIO IN/OUT, Y-CHROMA IN/OUT, VIDEO IN/OUT]

A [TUNER, AUDIO, CONTROL, A
AV SWITCH, RGB JUNGLE,
Y/C PROCESSOR]


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
J-903 21P :RGB
J-905 21P :AV2
TO A BOARD CN0110
CN1210
VAR L
GND
VAR R
L AUDIO
R AUDIO
J291
I/O-BOARD
J
(AUDIO IN/OUT, VIDEO IN/OUT)
CN1209 50P WHT :BTOB-P TO A BOARD CN0109
B-SS4260<AEP>-J..
GND
V IN
V OUT
BLK
R
G
MODE
B
L IN
L OUT
R IN
R OUT
C IN
P OFF
L1 OUT
V1 OUT
TV L IN
V2 OUT
V2 IN
L2-IN
R2-OUT
C2-OUT
Y IN
V3 OUT
V3-IN
L3 IN
Y3 OUT
C3 OUT
TV V IN
MODE 1
R1 OUT
TV R IN
MODE 2
R2 IN
L2 OUT
Y2 OUT
C IN
MODE 3
R3 IN
L3 OUT
R3 OUT
D907 MTZJ-9.1 PROTECT
D903 MTZJ-9.1 PROTECT
D904 MTZJ-9.1 PROTECT
JW935

DIODE	
D903	B－4
D904	A－5
D907	A－6
D908	B－7
D909	B－7
D910	B－7
D911	B－7
D912	A－5
D913	A－6
D914	B－6
D915	C－5
D916	C－6
D917	B－5
D924	B－6
D925	C－7
D926	C－7
D927	C－7
D928	D－4

－ J BOARD －

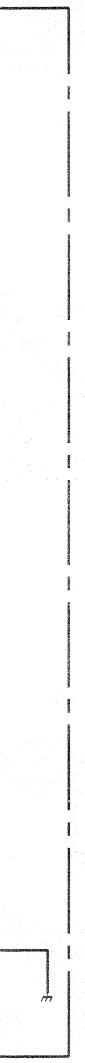

D
C
B
A
1
2
3
4
5
6
7
8
9

Note :

- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

J [AUDIO IN/OUT, Y-CHROMA IN/OUT, VIDEO IN/OUT] **A** [TUNER, AUDIO, CONTROL, AUDIO AMP AV SWITCH, RGB JUNGLE, Y/C PROCESSOR]

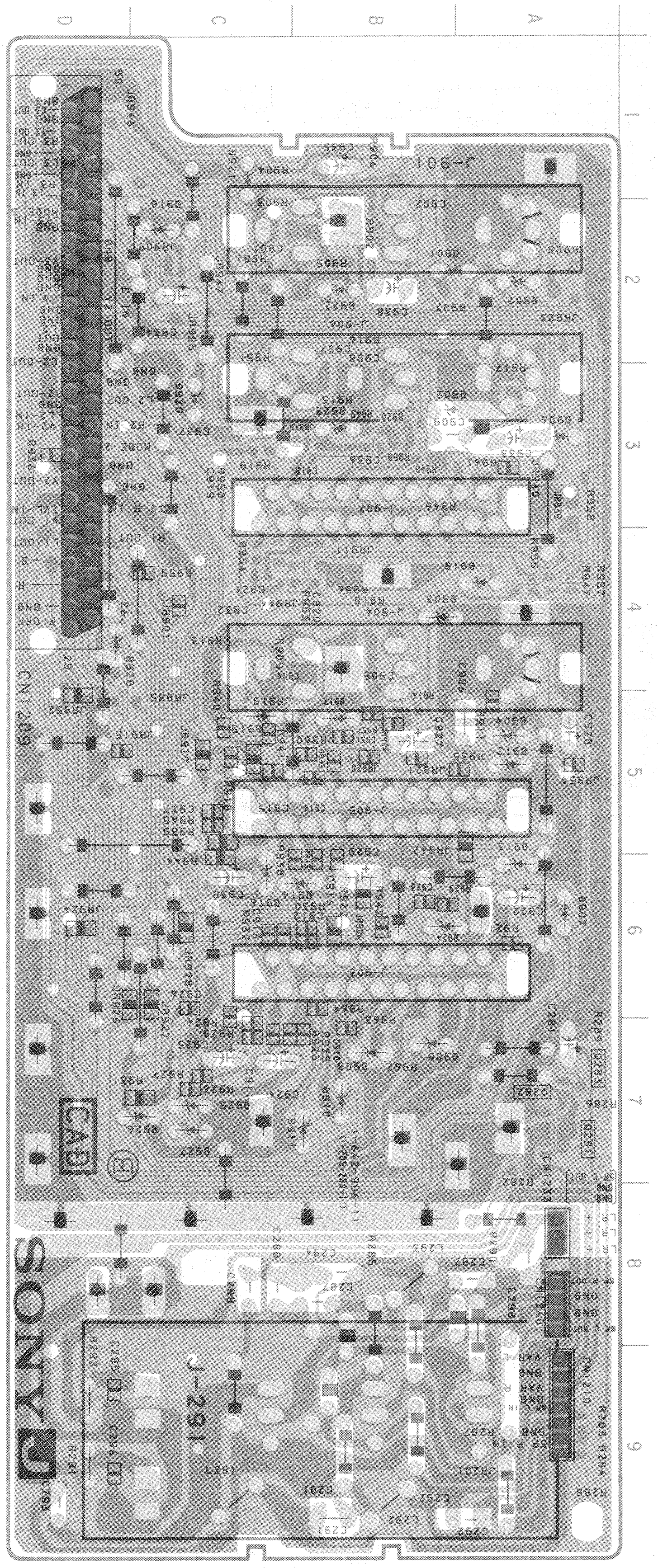
10



B-SS4260<AEP>-J..

DIODE	
D903	B-4
D904	A-5
D907	A-6
D908	B-7
D909	B-7
D910	B-7
D911	B-7
D912	A-5
D913	A-6
D914	B-6
D915	C-5
D916	C-6
D917	B-5
D924	B-6
D925	C-7
D926	C-7
D927	C-7
D928	D-4

– J BOARD –

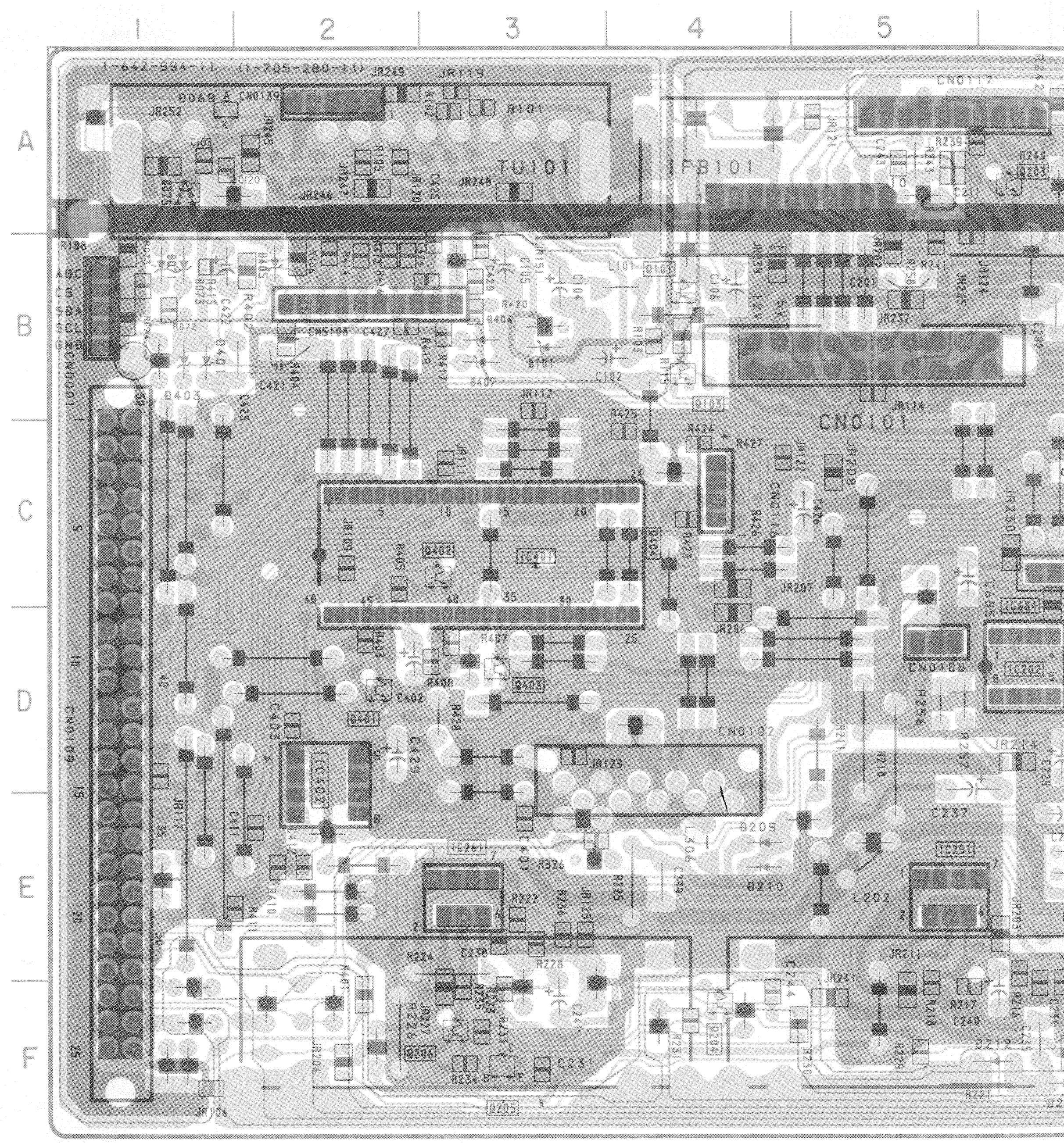

D
C
B
A
1
2
3
4
5
6
7
8
9
J-901
J-902
J-903
J-904
J-905
J-906
J-907
CN1209
CAD
SONY
J-291
CN1210
L291
1-642-956-11

IC	
IC072	B-8
201	D-7
202	D-6
251	E-5
261	E-3
301	A-10
302	A-13
304	C-13
401	C-3
402	D-2
681	E-12
683	F-11
684	C-6

TRANSISTOR	
Q071	F-12
101	B-4
102	A-9
103	B-4
201	E-6
202	E-6
203	A-6
204	F-4
205	F-3
206	F-3
207	B-8
209	F-10
303	A-9
304	E-13
306	E-12
308	D-12
309	D-11
311	D-10
312	D-10
401	D-2
402	C-3
403	D-3
581	C-11
582	C-11
610	F-12
611	F-12
683	F-11

DIODE	
D068	B-9
069	A-1
071	B-1
073	B-1
075	A-1
077	B-10
078	B-9
079	B-9
101	B-3
205	A-9
206	F-10
207	F-10
208	F-10
209	E-4
210	E-4
211	F-6
212	F-6
213	F-7
301	B-11
302	A-12
303	C-11
304	B-13
305	E-11
306	E-13
307	E-13
308	E-13
310	B-10
311	D-12
381	C-11
401	B-1
403	B-1
405	B-2
406	B-3
407	B-3
571	C-12
681	F-11
682	F-11

– A BOARD –


1
2
3
4
5
A
B
C
D
E
F
1-642-994-11
(1-705-280-11)
TU101
IFB101
CN0101
CN0109
CN0102
CN0117
CN0108
IC401
IC402
IC261
IC251
IC684
IC202
AGC
CS
SBA
SCL
GND

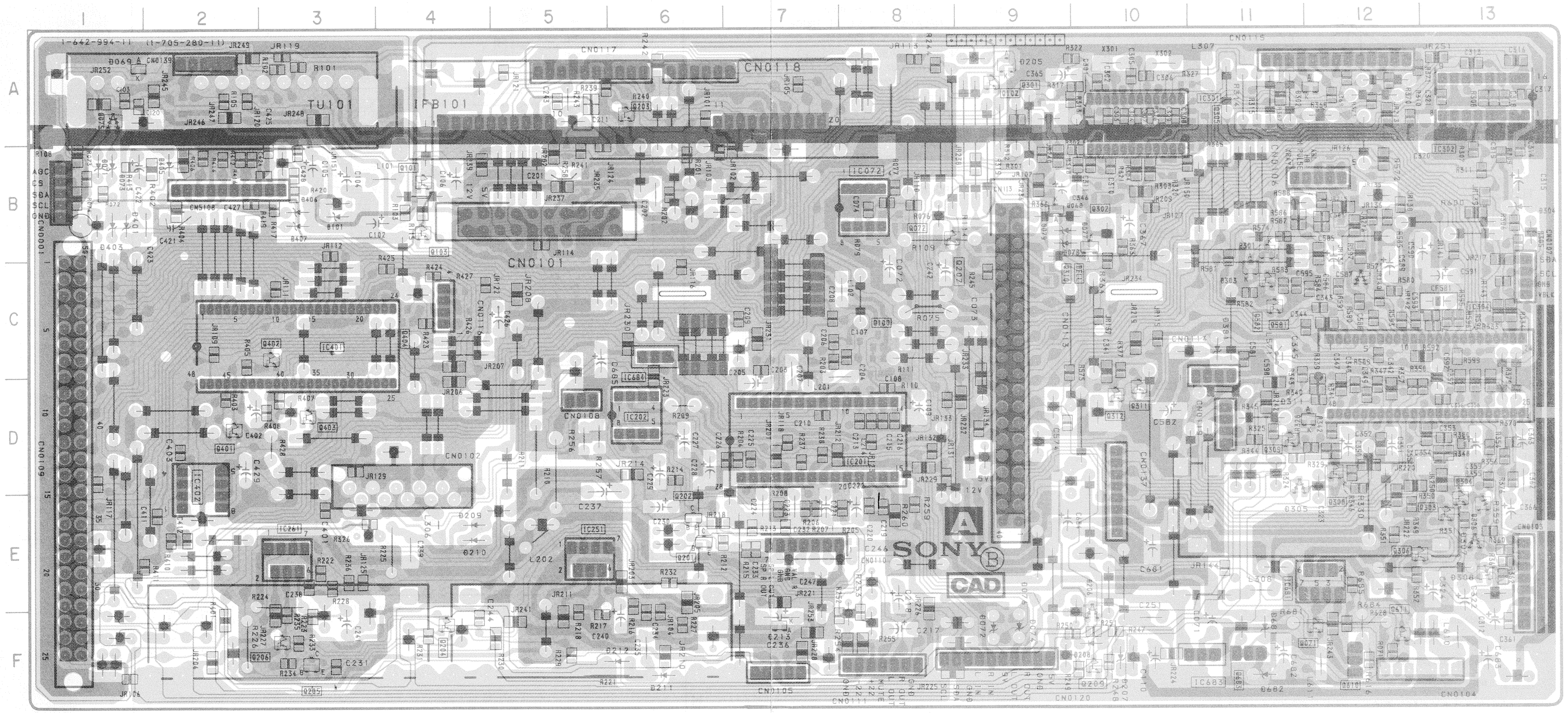
te :

▨ : Pattern from the side which enables seeing.

▨ : Pattern of the rear side.

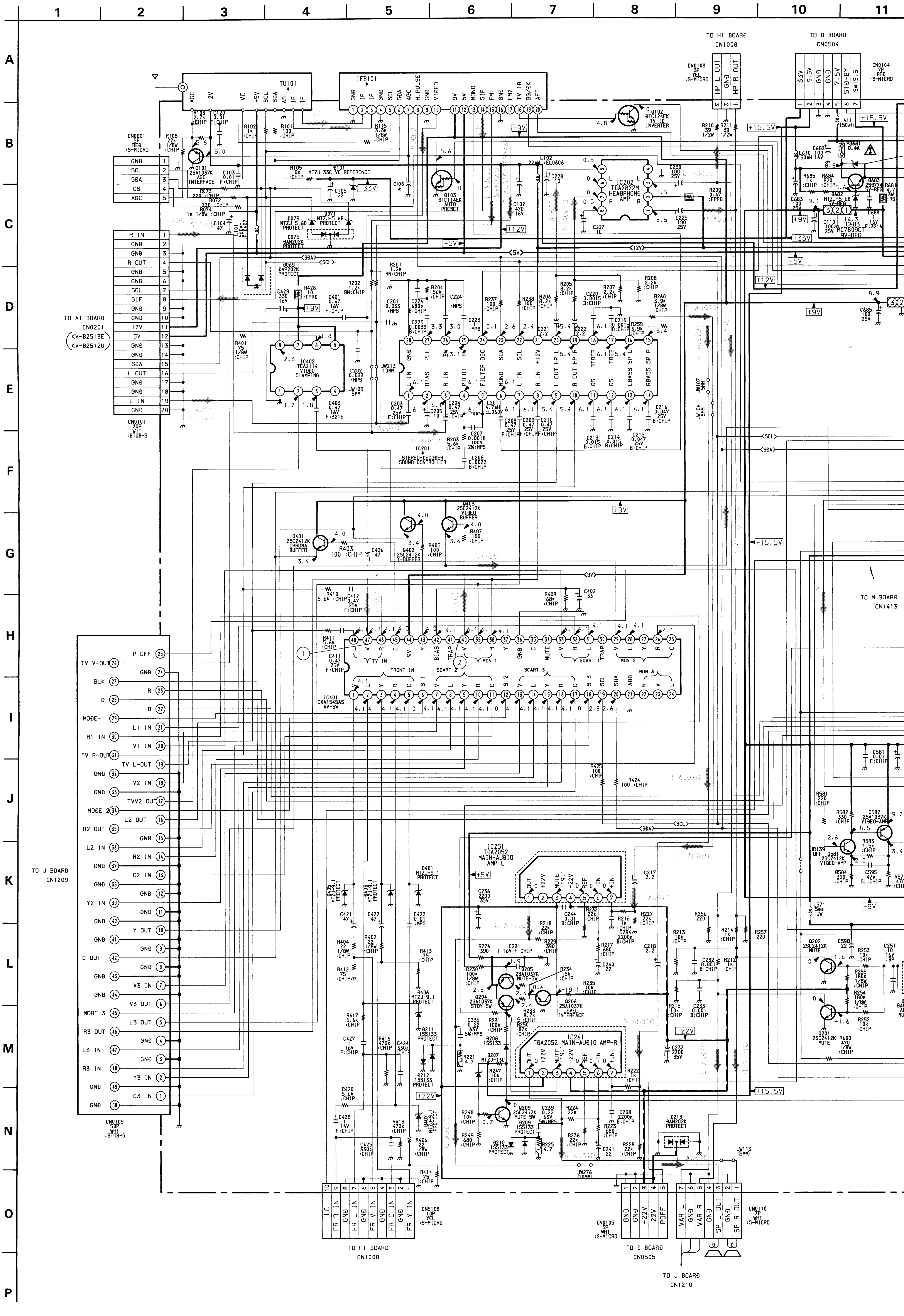
073	B-1
075	A-1
077	B-10
078	B-9
079	B-9
01	B-3
205	A-9
206	F-10
207	F-10
208	F-10
209	E-4
210	E-4
211	F-6
212	F-6
213	F-7
301	B-11
302	A-12
303	C-11
304	B-13
305	E-11
306	E-13
307	E-13
308	E-13
310	B-10
311	D-12
381	C-11
401	B-1
403	B-1
405	B-2
406	B-3
407	B-3
571	C-12
681	F-11
682	F-11

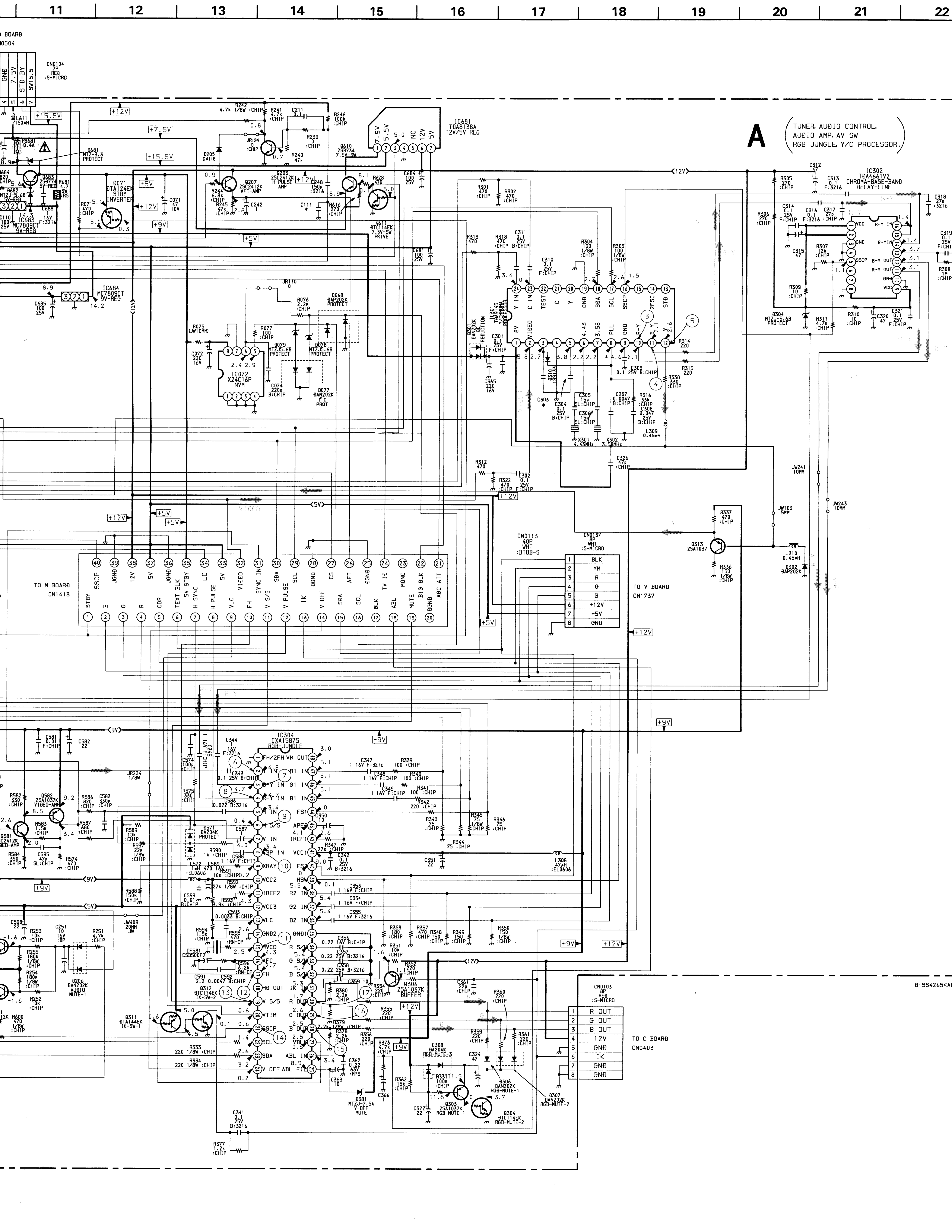
– A BOARD –


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
1-642-994-11 (1-705-280-11)
TU101
IFB101
CN0101
CN0117
CN0118
CN0115
CN0109
CN0102
CN0108
CN0105
CN0111
CN0120
CN0104
CN0137
IC401
IC402
IC202
IC201
IC251
IC261
IC072
IC683
IC301
IC302
SONY
A
CAD
ABC
CS
SDA
SCL
GND

Note :

- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.


TU101
IFB101
TO H1 BOARD
CN1008
TO Ø BOARD
CN0504
CN0108
3P
YEL
:S-MICRO
CN0104
7P
RED
:S-MICRO
Q102
DTC124EK
TV-IB
INVERTER
CN0001
5P
RED
:S-MICRO
GND
SCL
SDA
CS
AGC
Q101
2SA1037K
AGC
INTERFACE
D101
MTZJ-33C VC REFERENCE
Q103
DTC114EK
AUTO
PRESET
IC202
TDA2822M
HEADPHONE
AMP
D073
MTZJ-5.6B
PROTECT
D071
MTZJ-5.6B
PROTECT
D075
DAN202K
PROTECT
D069
DAP202K
PROTECT
TO A1 BOARD
CN0201
KV-B2513E
KV-B2512U
R IN
R OUT
SIF
12V
5V
L OUT
L IN
CN0101
20P
WHT
:BTOB-S
IC402
TDA2114
VIDEO
CLAMPING
IC201
STEREO-DECODER
SOUND-CONTROLLER
Q401
2SC2412K
CHROMA
BUFFER
Q402
2SC2412K
Y-BUFFER
Q403
2SC2412K
VIDEO
BUFFER
TO M BOARD
CN1413
IC401
CXA1545AS
AV-SW
TV IN
FRONT IN
SCART 2
MON 1
SCART 3
MON 2
MON 3
P OFF
TV V-OUT
BLK
G
R
B
MODE-1
L1 IN
R1 IN
V1 IN
TV R-OUT
TV L-OUT
V2 IN
TVV2 OUT
MODE 2
L2 OUT
R2 OUT
L2 IN
R2 IN
C2 IN
Y2 IN
Y OUT
C OUT
V3 IN
V3 OUT
MODE-3
L3 OUT
R3 OUT
L3 IN
R3 IN
Y3 IN
C3 IN
TO J BOARD
CN1209
CN0109
50P
WHT
:BTOB-S
IC251
TDA2052
MAIN-AUDIO
AMP-L
IC261
TDA2052 MAIN-AUDIO AMP-R
Q205
2SA1037K
MUTE-SW
Q204
2SA1037K
STBY-SW
Q206
2SA1037K
LEVEL
INTERFACE
Q209
2SC2412K
MUTE-SW
Q582
2SA1037K
VIDEO-AMP
Q581
2SC2412K
VIDEO-AMP
Q202
2SC2412K
MUTE
Q201
2SC2412K
MUTE
IC683
MC7809CT
9V-REG
Q683
2SD774
5V-REG
CN5108
10P
YEL
:S-MICRO
TO H1 BOARD
CN1008
CN0105
5P
WHT
:S-MICRO
TO Ø BOARD
CN0505
CN0110
7P
WHT
:S-MICRO
TO J BOARD
CN1210
L AUDIO
R AUDIO
VIDEO
+5V
+9V
+12V
+15.5V
+22V
-22V
+33V
1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P


11
12
13
14
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16
17
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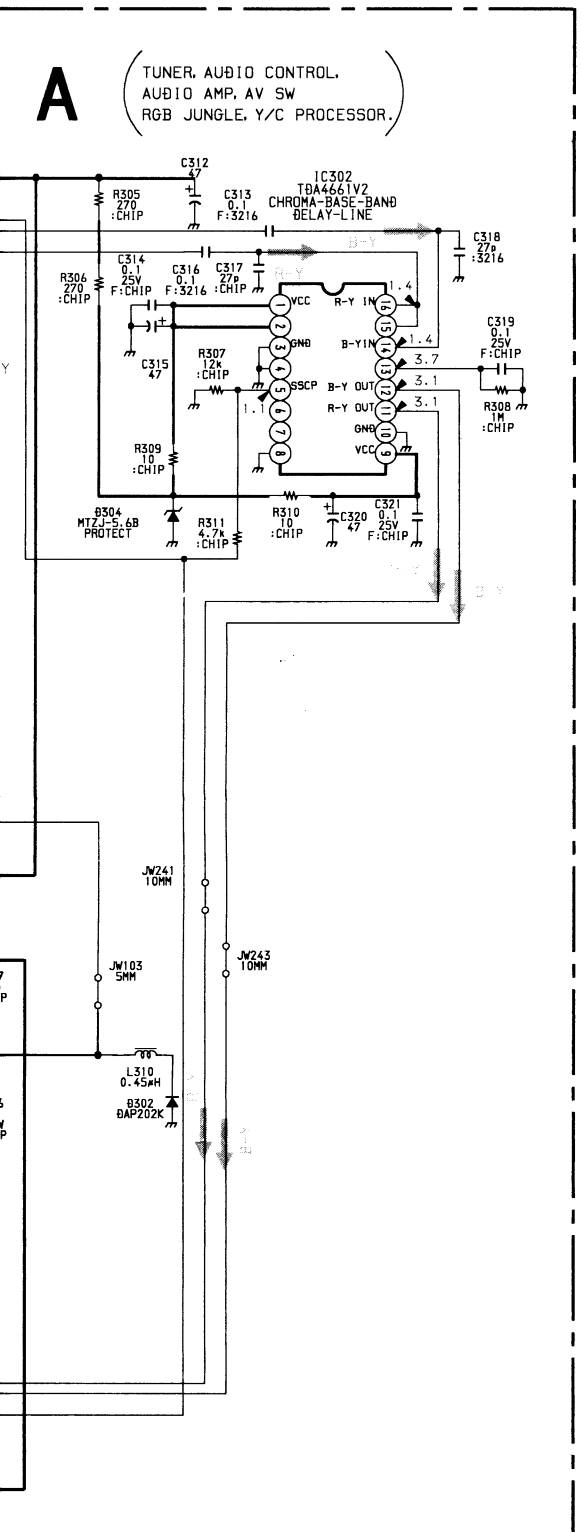
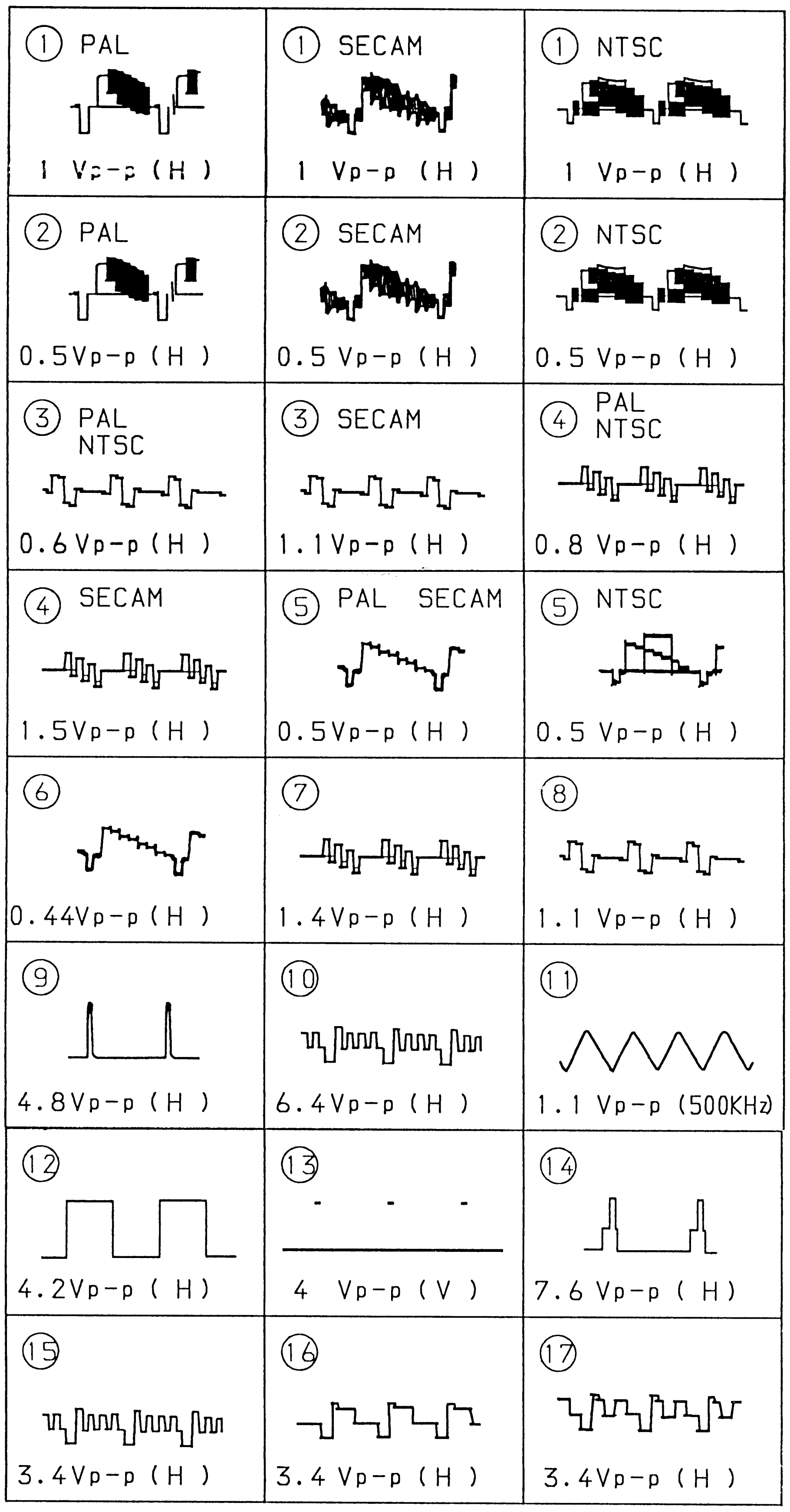
19
20
21
22
A
TUNER, AUDIO CONTROL, AUDIO AMP, AV SW RGB JUNGLE, Y/C PROCESSOR.
CN0104 7P RED :S-MICRO
GND
7.5V
STD-BY
SW15.5
+15.5V
+12V
+7.5V
+5V
+9V
IC681 TDA8138A 12V/5V-REG
IC684 MC7809CT 9V-REG
IC683 MC7809CT 9V-REG
Q683 2SD774 5V-REG
Q681 MTZ-3.3 PROTECT
Q071 DTA124EK STBY INVERTER
Q207 2SC2412K AFT-AMP
Q203 2SC2412K H-PULSE AMP
Q610 2SB734 7.5V-SW
Q611 DTC114EK 7.5V-SW DRIVE
IC072 X24C16P NVM
Q068 DAP202K PROTECT
Q079 MTZJ5.6B PROTECT
Q078 MTZJ5.6B PROTECT
Q077 DAN202K I²C PROT
IC301 TDA9145 Y/C PROCESSOR
IC302 TDA4661V2 CHROMA-BASE-BAND DELAY-LINE
Q304 MTZJ-5.6B PROTECT
X301 4.43MHz
X302 3.58MHz
Q313 2SA1037
Q302 DAP202K
TO M BOARD CN1413
CN0113 40P WHT :BTOB-S
CN0137 8P WHT :S-MICRO
BLK
YM
R
G
B
+12V
+5V
GND
TO V BOARD CN1737
SSCP
JGND
12V
5V
JGND
5V STBY
LC
5V
VIDEO
SYNC IN
SDA
SCL
DGND
CS
AFT
DGND
TV IO
MONO
BIG BLK
AGC ATT
STBY
B
G
R
COR
TEXT BLK
H SYNC
H PULSE
VLC
FH
V S/S
V PULSE
IK
V OFF
SDA
SCL
BLK
ABL
MUTE
DGND
IC304 CXA1587S RGB-JUNGLE
Q582 2SA1037K VIDEO-AMP
Q581 2SC2412K VIDEO-AMP
Q571 DA204K PROTECT
Q206 DAN202K AUDIO MUTE-1
Q311 DTA144EK IK-SW-1
Q312 DTC144EK IK-SW-2
Q306 2SA1037K BUFFER
Q308 DA204K RGB-MUTE-3
Q303 2SA1037K RGB-MUTE-1
Q304 DTC114EK RGB-MUTE-2
Q306 DAN202K RGB-MUTE-1
Q307 DAN202K RGB-MUTE-2
Q381 MTZJ-7.5A V-OFF MUTE
CN0103 8P RED :S-MICRO
R OUT
G OUT
B OUT
12V
GND
IK
GND
GND
TO C BOARD CN0403
B-SS4265<A


A
TUNER, AUDIO CONTROL, AUDIO AMP, AV SW RGB JUNGLE, Y/C PROCESSOR.
IC302 TDA4661V2 CHROMA-BASE-BAND DELAY-LINE
C312 47
R305 270 :CHIP
C313 0.1 F:3216
C318 27p :3216
R306 270 :CHIP
C314 0.1 25V F:CHIP
C316 0.1 F:3216
C317 27p :CHIP
B-Y
R-Y
VCC
R-Y IN
GND
B-YIN
SSCP
B-Y OUT
R-Y OUT
VCC
1.4
1.4
3.7
3.1
3.1
1.1
C319 0.1 25V F:CHIP
R308 1M :CHIP
C315 47
R307 12k :CHIP
R309 10 :CHIP
D304 MTZJ-5.6B PROTECT
R311 4.7k :CHIP
R310 10 :CHIP
C320 47
C321 0.1 25V F:CHIP
JW241 10MM
JW103 5MM
JW243 10MM
L310 0.45µH
D302 DAP202K

B-SS4265<AEP>-A..

• WAVEFORMS A BOARD

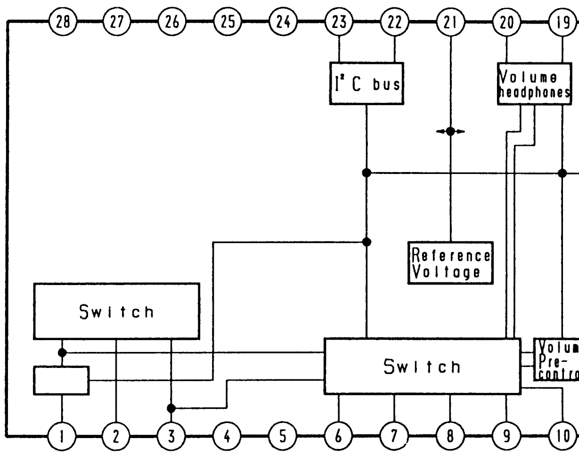

① PAL
1 Vp-p (H)
① SECAM
1 Vp-p (H)
① NTSC
1 Vp-p (H)
② PAL
0.5Vp-p (H)
② SECAM
0.5 Vp-p (H)
② NTSC
0.5 Vp-p (H)
③ PAL NTSC
0.6Vp-p (H)
③ SECAM
1.1Vp-p (H)
④ PAL NTSC
0.8 Vp-p (H)
④ SECAM
1.5Vp-p (H)
⑤ PAL SECAM
0.5Vp-p (H)
⑤ NTSC
0.5 Vp-p (H)
⑥
0.44Vp-p (H)
⑦
1.4Vp-p (H)
⑧
1.1 Vp-p (H)
⑨
4.8Vp-p (H)
⑩
6.4Vp-p (H)
⑪
1.1 Vp-p (500KHz)
⑫
4.2Vp-p (H)
⑬
4 Vp-p (V)
⑭
7.6 Vp-p (H)
⑮
3.4Vp-p (H)
⑯
3.4 Vp-p (H)
⑰
3.4Vp-p (H)

As to the voltage value shown by the mark ※ on the Schematic Diagram, see another list.

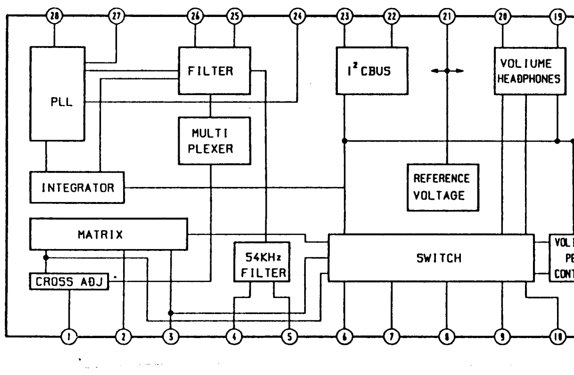
	PAL	SECAM	NTSC 3.58	NTSC 4.43
IC301 ⑧	5.0	4.6	5.0	5.0

	KV-B2511D KV-B2511A KV-B2511K	KV-B2511B	KV-B2513E	KV-B2512U
C106	4.7/50V	10/50V	4.7/50V	4.7/50V
C111	–	0.001/50V	–	–
CN0101	–	–	20P	20P
IC201	TDA6612	TDA6612	TDA6612	TDA6622
IFB101	IFH-389	IFH-389F	IFH-389	IFH-395
TU101	UV-916H	UV-916H	UV-916H	U-944C

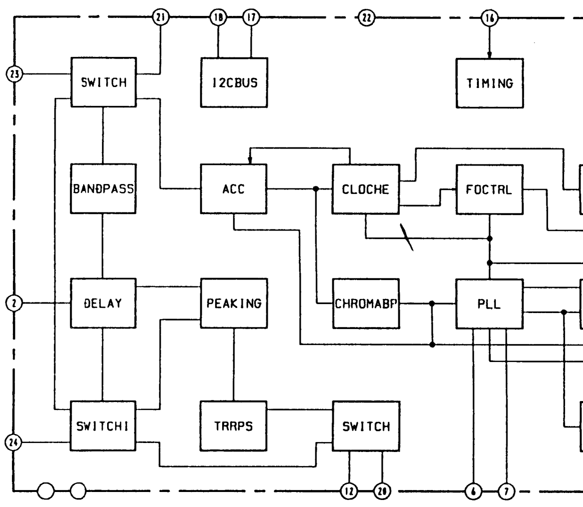
• A BOARD IC201 TDA6622 (KV-B2512U only)


I²C bus
Volume headphones
Reference Voltage
Switch
Switch
Volum Pre- contro

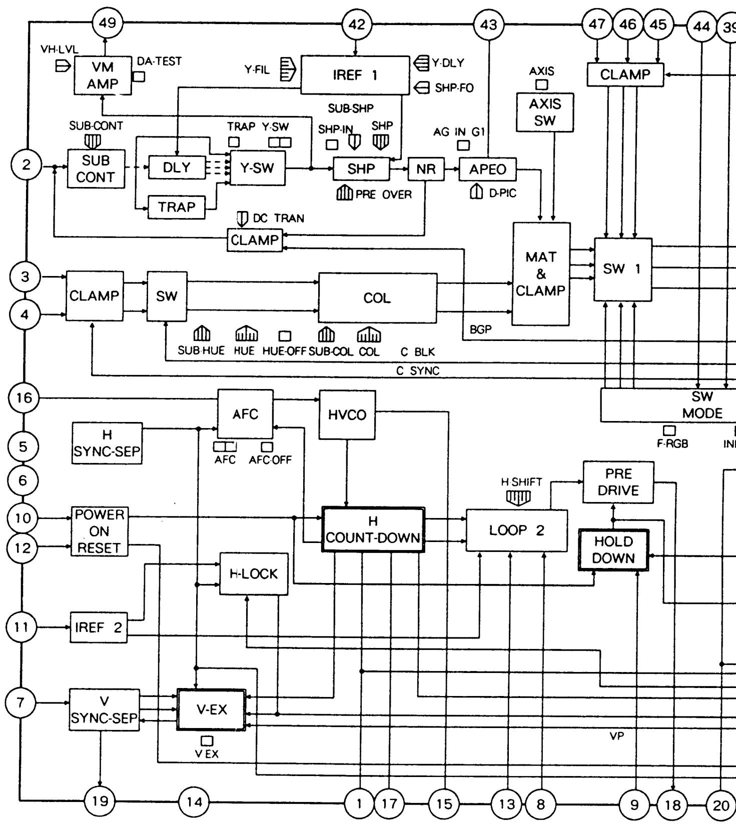
• A BOARD IC201 TDA6612


PLL
FILTER
MULTI PLEXER
I²CBUS
VOLIUME HEADPHONES
INTEGRATOR
REFERENCE VOLTAGE
MATRIX
54KHz FILTER
SWITCH
CROSS ADJ

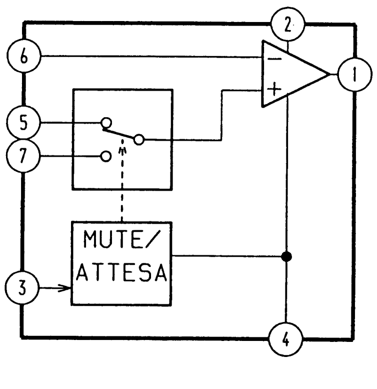
• A BOARD IC301 TDA9145


SWITCH
I2CBUS
TIMING
BANDPASS
ACC
CLOCHE
FOCTRL
DELAY
PEAKING
CHROMABP
PLL
SWITCHI
TRRPS
SWITCH

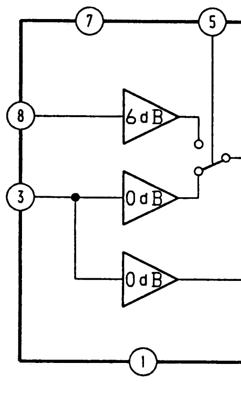
• A BOARD IC304 CXA1587S


VH-LVL
VM AMP
DA-TEST
Y-FIL
IREF 1
Y-DLY
SHP-FO
AXIS
AXIS SW
CLAMP
SUB-SHP
SUB-CONT
TRAP Y-SW
SHP-IN SHP
AG IN G1
SUB CONT
DLY
Y-SW
SHP
NR
APEO
TRAP
PRE OVER
D-PIC
DC TRAN
CLAMP
MAT & CLAMP
SW 1
CLAMP
SW
COL
SUB-HUE HUE HUE-OFF SUB-COL COL C BLK
BGP
C SYNC
SW MODE
AFC
HVCO
F-RGB
H SYNC-SEP
AFC AFC-OFF
H SHIFT
PRE DRIVE
POWER ON RESET
H COUNT-DOWN
LOOP 2
HOLD DOWN
H-LOCK
IREF 2
V SYNC-SEP
V-EX
V-EX
VP

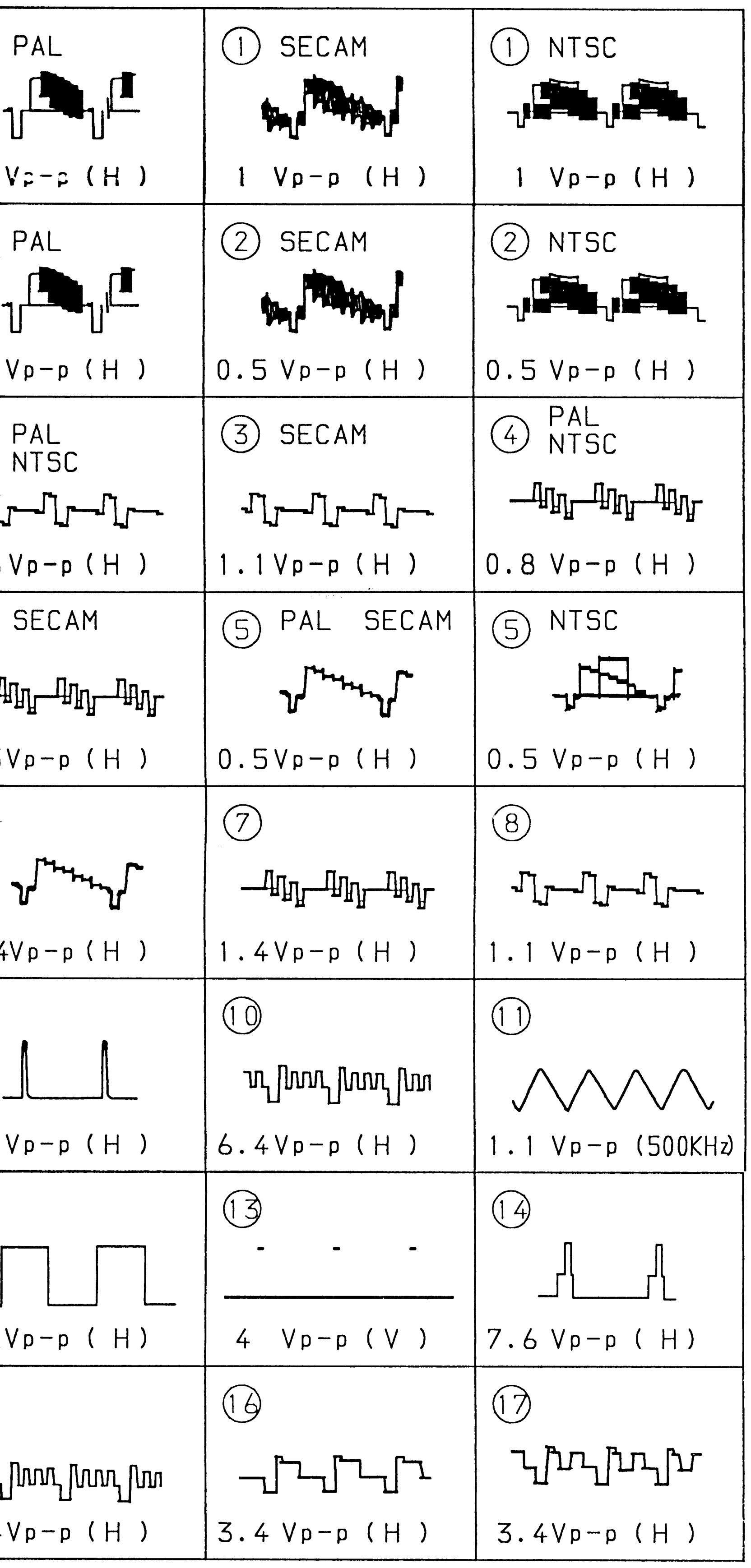
• A BOARD IC251 TDA2052


MUTE/ ATTESA

• A BOARD IC402 TE



EFORMS A BOARD

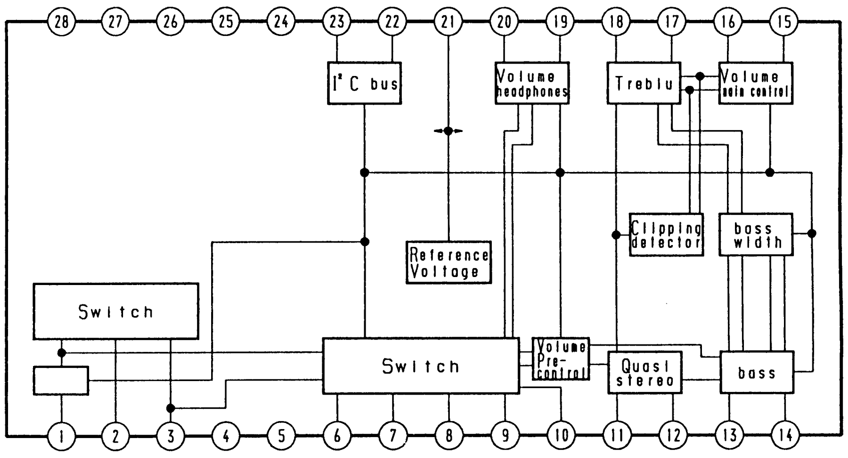


the voltage value shown by the
※ on the Schematic Diagram,
nother list.

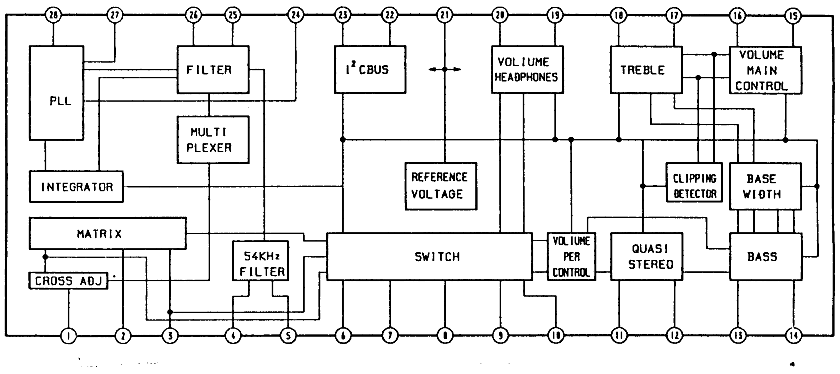
	PAL	SECAM	NTSC 3.58	NTSC 4.43
01 ⑧	5.0	4.6	5.0	5.0

	KV-B2511D KV-B2511A KV-B2511K	KV-B2511B	KV-B2513E	KV-B2512U
6	4.7/50V	10/50V	4.7/50V	4.7/50V
1	–	0.001/50V	–	–
01	–	–	20P	20P
1	TDA6612	TDA6612	TDA6612	TDA6622
01	IFH-389	IFH-389F	IFH-389	IFH-395
01	UV-916H	UV-916H	UV-916H	U-944C

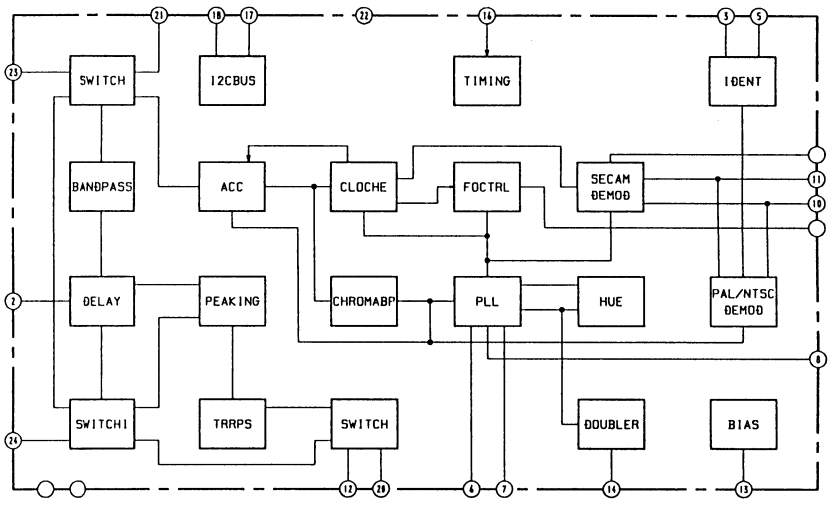
• A BOARD IC201 TDA6622 (KV-B2512U only)


I²C bus
Volume headphones
Treblu
Volume main control
Clipping detector
bass width
Reference Voltage
Switch
Switch
Volume Pre-control
Quasi stereo
bass
28 27 26 25 24 23 22 21 20 19 18 17 16 15
1 2 3 4 5 6 7 8 9 10 11 12 13 14

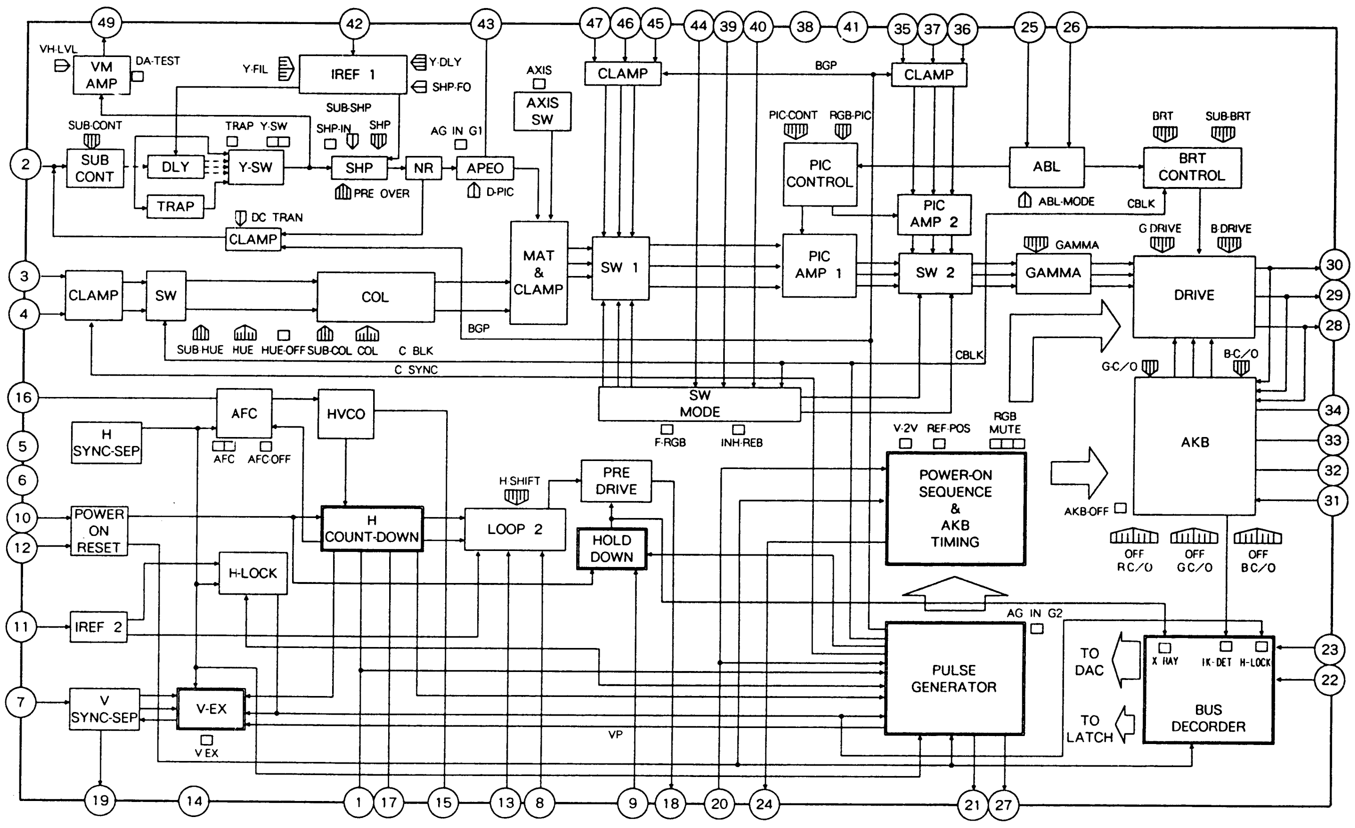
• A BOARD IC201 TDA6612


PLL
FILTER
MULTI PLEXER
INTEGRATOR
MATRIX
CROSS ADJ
54KHz FILTER
I²CBUS
VOLUME HEADPHONES
TREBLE
VOLUME MAIN CONTROL
REFERENCE VOLTAGE
CLIPPING DETECTOR
BASE WIDTH
SWITCH
VOLUME PER CONTROL
QUASI STEREO
BASS

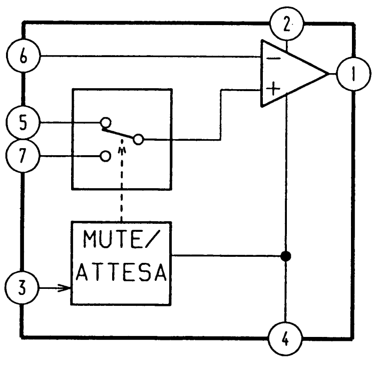
• A BOARD IC301 TDA9145


SWITCH
I2CBUS
TIMING
IDENT
BANDPASS
ACC
CLOCHE
FOCTRL
SECAM DEMOD
DELAY
PEAKING
CHROMABP
PLL
HUE
PAL/NTSC DEMOD
SWITCHI
TRRPS
SWITCH
DOUBLER
BIAS

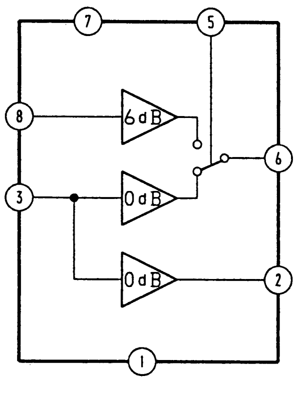
• A BOARD IC304 CXA1587S


VH-LVL
VM AMP
DA-TEST
Y-FIL
IREF 1
Y-DLY
SHP-FO
AXIS
AXIS SW
CLAMP
BGP
CLAMP
SUB-CONT
SUB CONT
TRAP
Y-SW
DLY
TRAP
SUB-SHP
SHP-IN
SHP
SHP
NR
AG IN G1
APEO
PRE OVER
D-PIC
DC TRAN
CLAMP
PIC-CONT
RGB-PIC
PIC CONTROL
ABL
ABL-MODE
BRT
SUB-BRT
BRT CONTROL
CBLK
PIC AMP 2
MAT & CLAMP
SW 1
PIC AMP 1
SW 2
GAMMA
GAMMA
G DRIVE
B DRIVE
DRIVE
CLAMP
SW
COL
SUB HUE
HUE
HUE-OFF
SUB-COL
COL
C BLK
C SYNC
BGP
CBLK
G-C/O
B-C/O
SW MODE
F-RGB
INH-REB
AFC
AFC
AFC-OFF
HVCO
H SYNC-SEP
V-2V
REF-POS
RGB MUTE
POWER-ON SEQUENCE & AKB TIMING
AKB
AKB-OFF
OFF RC/O
OFF GC/O
OFF BC/O
H SHIFT
PRE DRIVE
POWER ON RESET
H COUNT-DOWN
LOOP 2
HOLD DOWN
H-LOCK
IREF 2
AG IN G2
PULSE GENERATOR
TO DAC
TO LATCH
X RAY
IK-DET
H-LOCK
BUS DECORDER
V SYNC-SEP
V-EX
V EX
VP
49 42 43 47 46 45 44 39 40 38 41 35 37 36 25 26
2 3 4 16 5 6 10 12 11 7
30 29 28 34 33 32 31 23 22
19 14 1 17 15 13 8 9 18 20 24 21 27

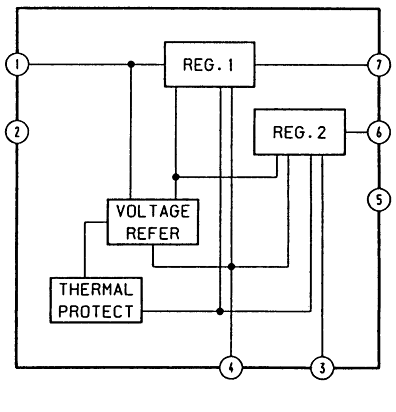
• A BOARD IC251 TDA2052


MUTE/ ATTESA
1 2 3 4 5 6 7

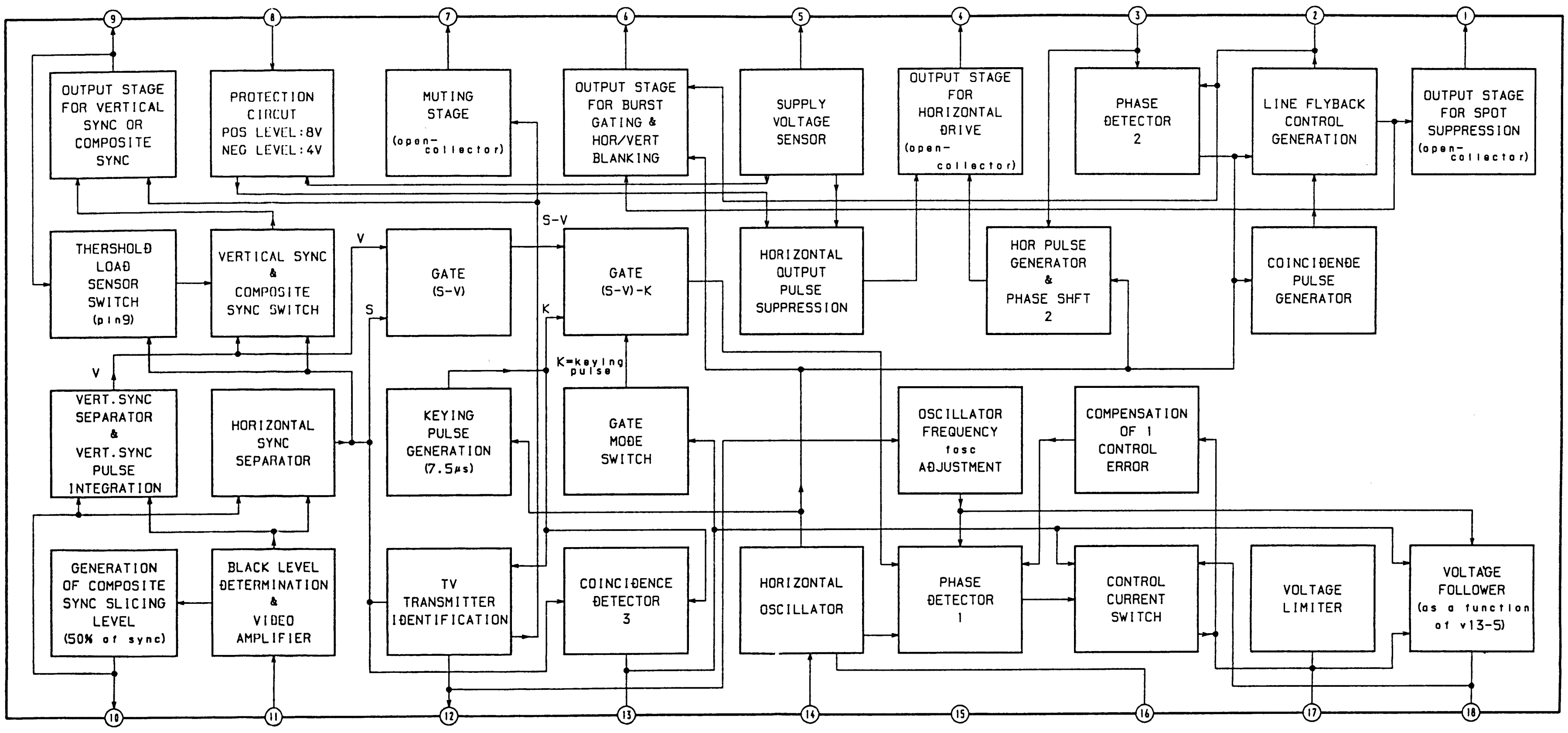
• A BOARD IC402 TEA2114


6dB
0dB
0dB
1 2 3 5 6 7 8

• A BOARD IC681 TDA8134


REG. 1
REG. 2
VOLTAGE REFER
THERMAL PROTECT
1 2 3 4 5 6 7

• M BOARD IC501 TDA2595-V9


9
8
7
6
5
4
3
2
1
OUTPUT STAGE FOR VERTICAL SYNC OR COMPOSITE SYNC
PROTECTION CIRCUT POS LEVEL:8V NEG LEVEL:4V
MUTING STAGE (open-collector)
OUTPUT STAGE FOR BURST GATING & HOR/VERT BLANKING
SUPPLY VOLTAGE SENSOR
OUTPUT STAGE FOR HORIZONTAL DRIVE (open-collector)
PHASE DETECTOR 2
LINE FLYBACK CONTROL GENERATION
OUTPUT STAGE FOR SPOT SUPPRESSION (open-collector)
S-V
THERSHOLD LOAD SENSOR SWITCH (pin9)
VERTICAL SYNC & COMPOSITE SYNC SWITCH
V
S
GATE (S-V)
K
GATE (S-V)-K
HORIZONTAL OUTPUT PULSE SUPPRESSION
HOR PULSE GENERATOR & PHASE SHFT 2
COINCIDENDE PULSE GENERATOR
K=keying pulse
V
VERT.SYNC SEPARATOR & VERT.SYNC PULSE INTEGRATION
HORIZONTAL SYNC SEPARATOR
KEYING PULSE GENERATION (7.5μs)
GATE MODE SWITCH
OSCILLATOR FREQUENCY fosc ADJUSTMENT
COMPENSATION OF 1 CONTROL ERROR
GENERATION OF COMPOSITE SYNC SLICING LEVEL (50% of sync)
BLACK LEVEL DETERMINATION & VIDEO AMPLIFIER
TV TRANSMITTER IDENTIFICATION
COINCIDENCE DETECTOR 3
HORIZONTAL OSCILLATOR
PHASE DETECTOR 1
CONTROL CURRENT SWITCH
VOLTAGE LIMITER
VOLTAGE FOLLOWER (as a function of v13-5)
10
11
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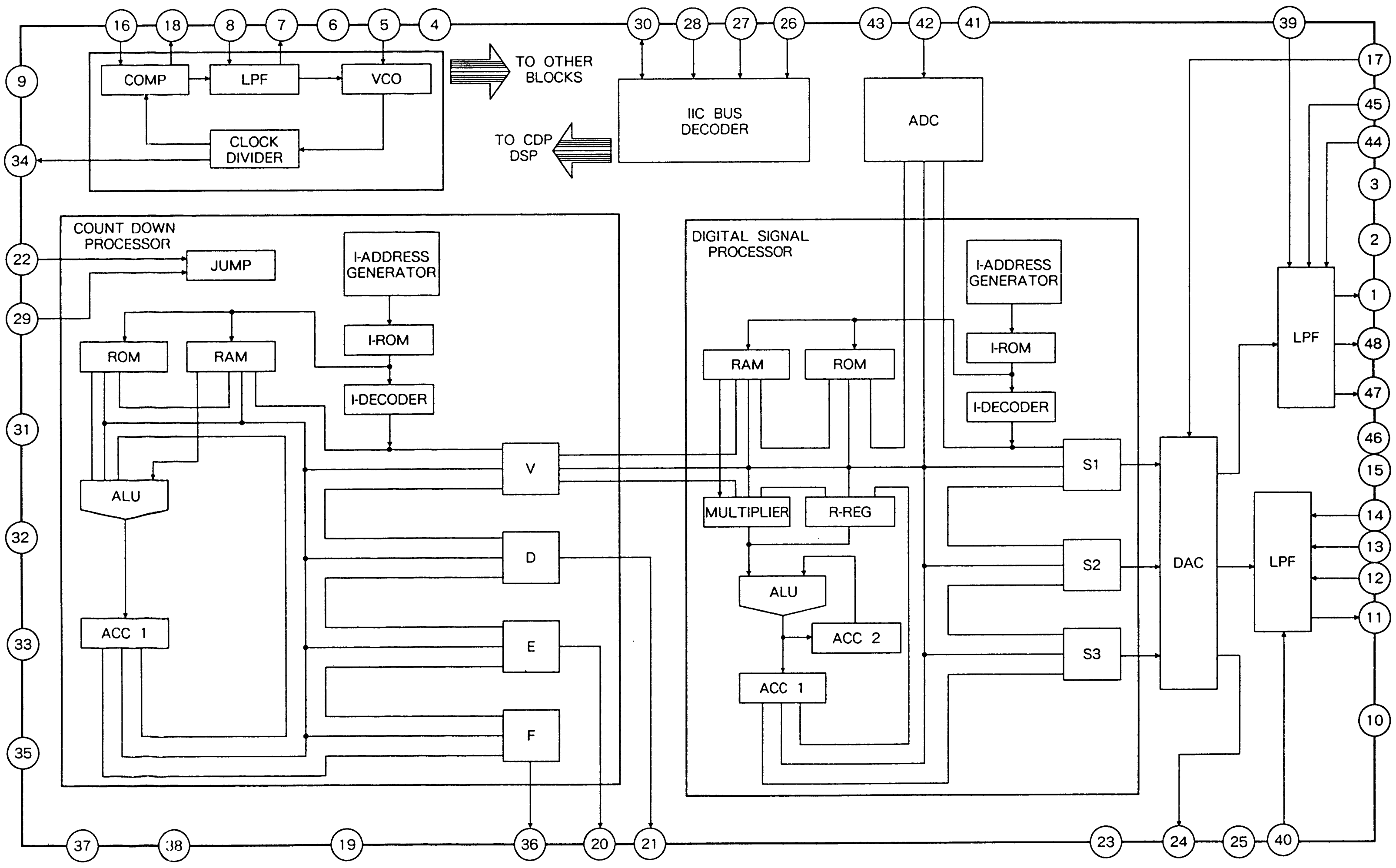
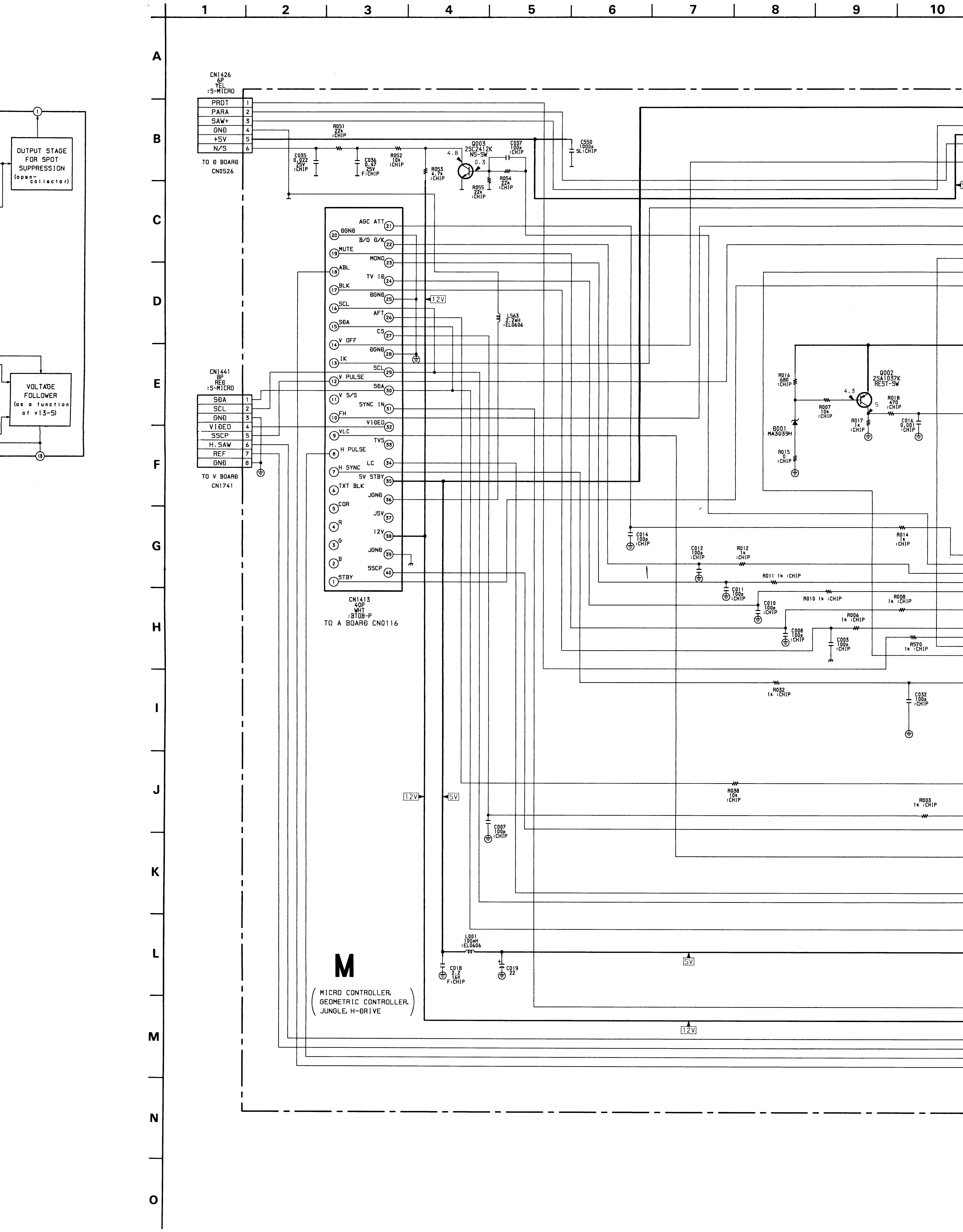
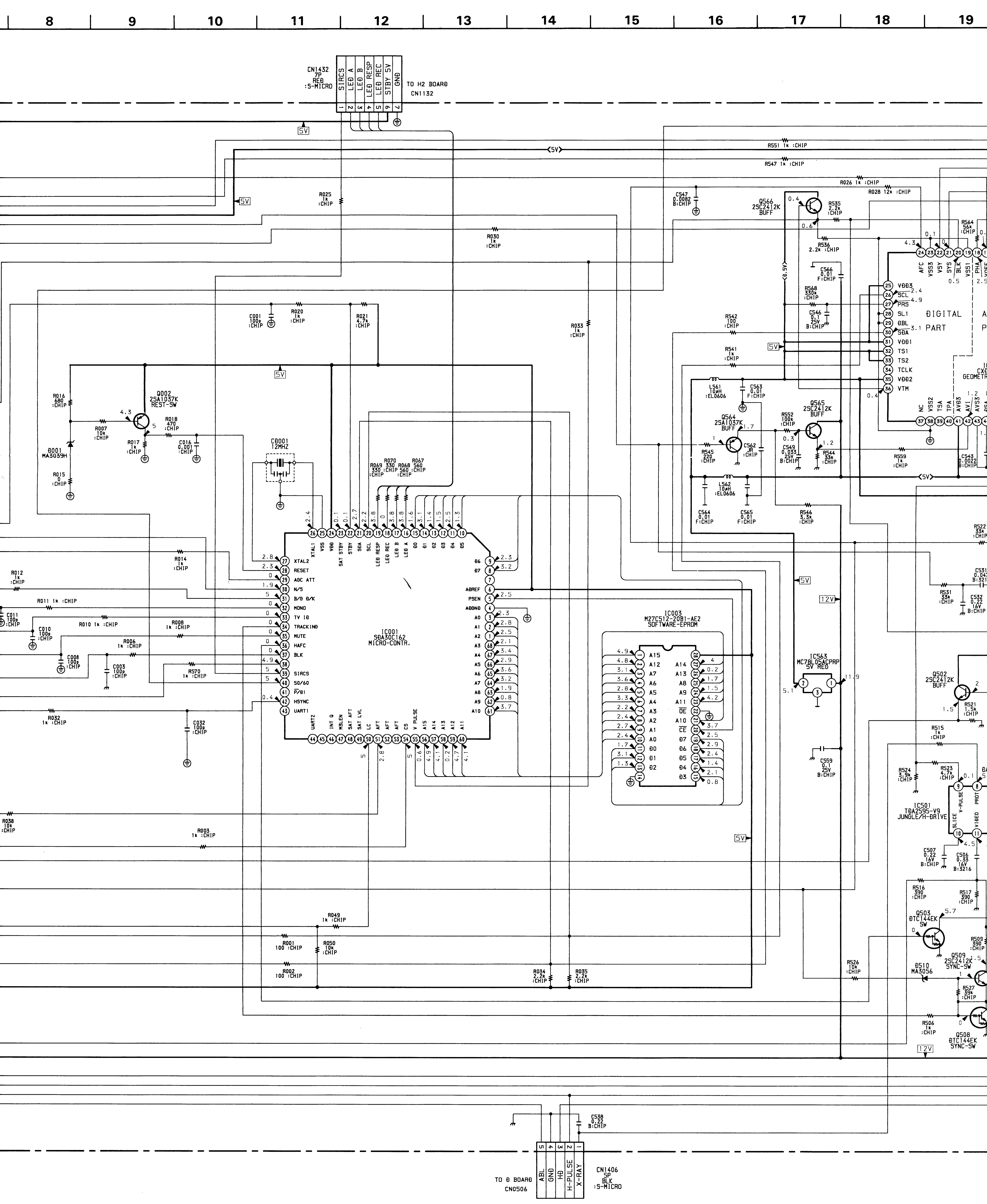
16
17
18

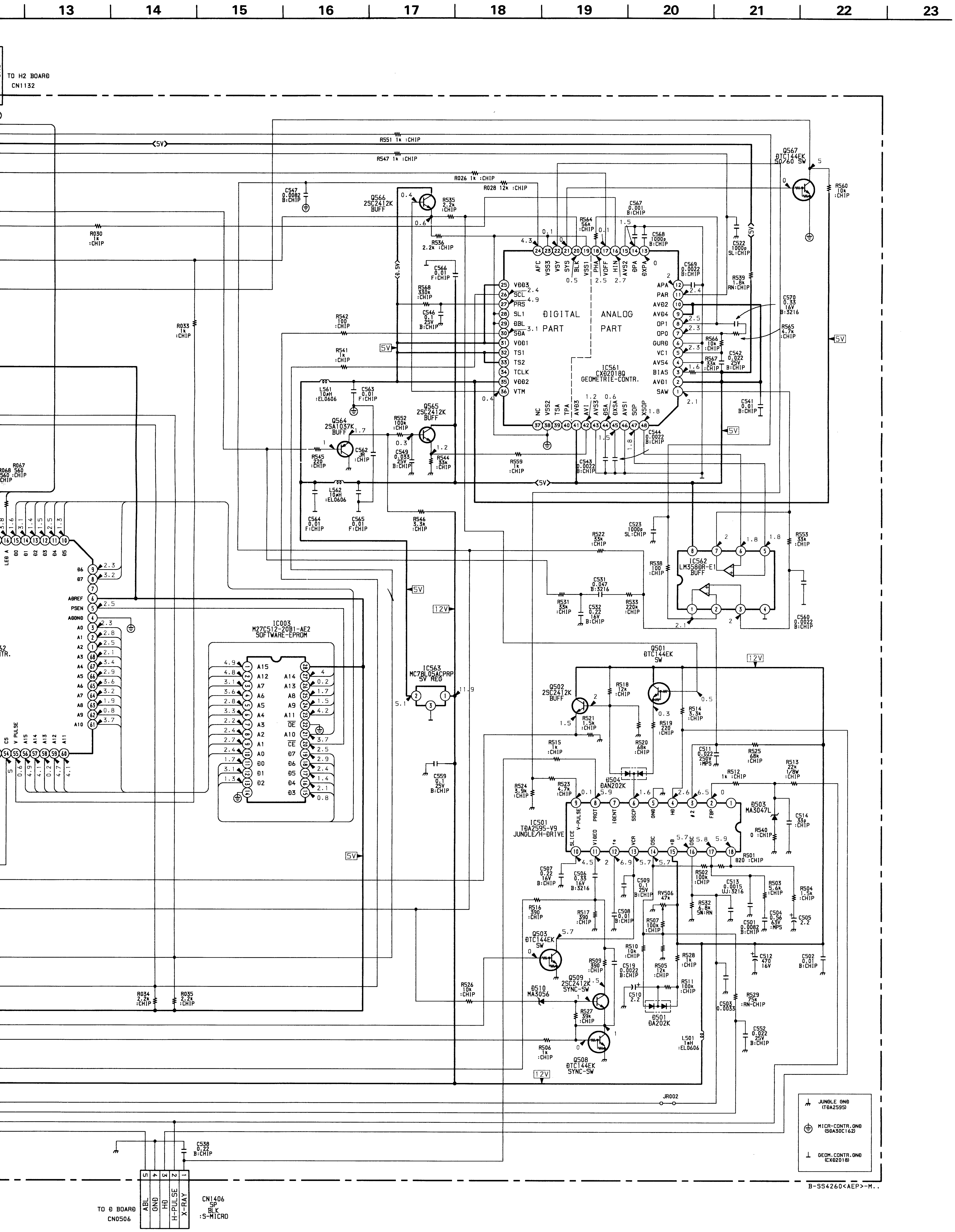
• M BOARD IC561 CXD2018Q


16
18
8
7
6
5
4
30
28
27
26
43
42
41
39
9
COMP
LPF
VCO
TO OTHER BLOCKS
CLOCK DIVIDER
TO CDP DSP
IIC BUS DECODER
ADC
17
45
44
3
2
1
48
47
46
15
14
13
12
11
10
34
COUNT DOWN PROCESSOR
JUMP
I-ADDRESS GENERATOR
22
29
ROM
RAM
I-ROM
I-DECODER
31
ALU
32
ACC 1
33
35
V
D
E
F
DIGITAL SIGNAL PROCESSOR
I-ADDRESS GENERATOR
RAM
ROM
I-ROM
I-DECODER
MULTIPLIER
R-REG
ALU
ACC 2
ACC 1
S1
S2
S3
DAC
LPF
LPF
37
38
19
36
20
21
23
24
25
40

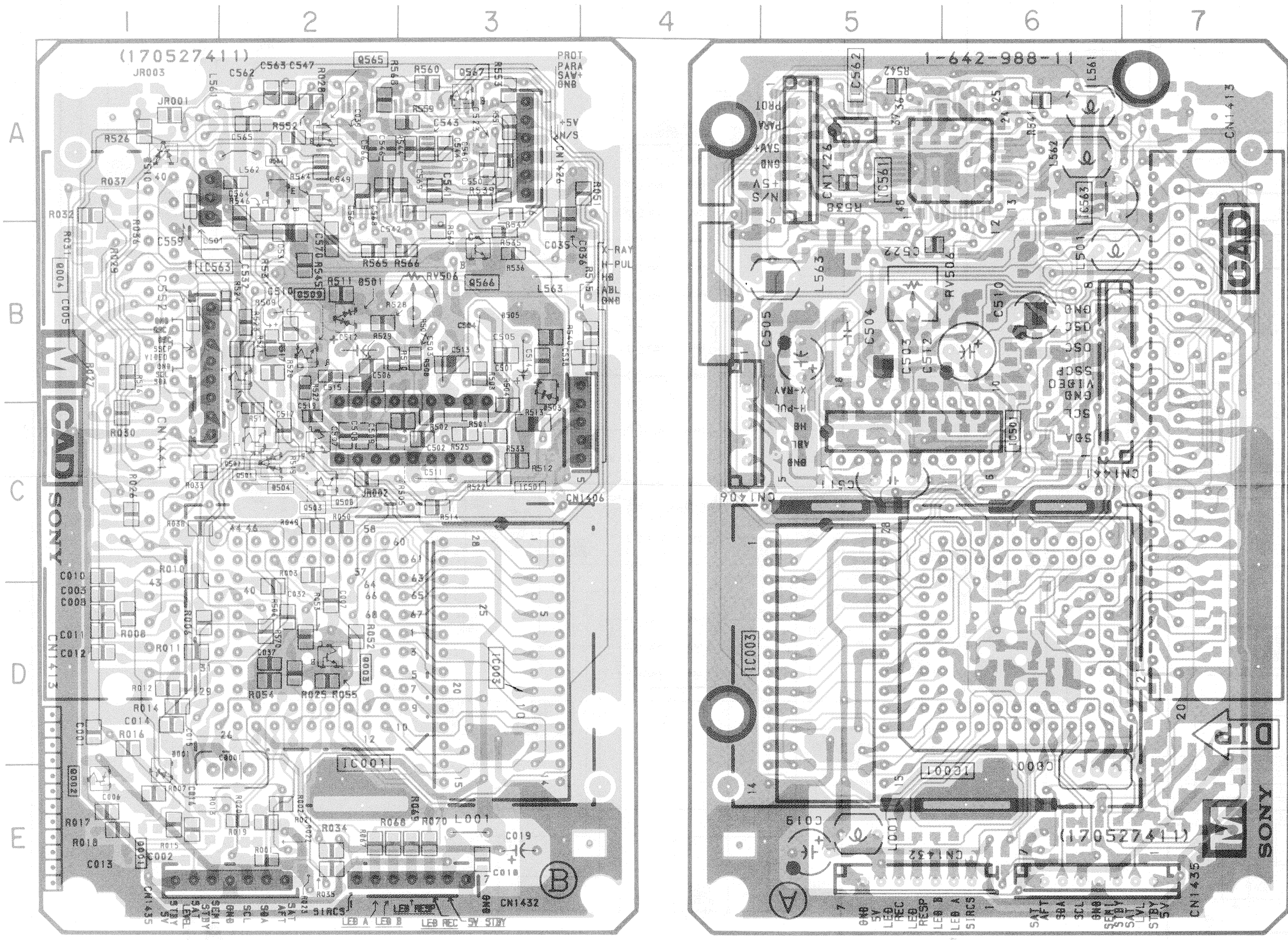


1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
OUTPUT STAGE FOR SPOT SUPPRESSION (open-collector)
VOLTAGE FOLLOWER (as a function of v13-5)
CN1426 6P YEL :S-MICRO
PROT
PARA
SAW+
GND
+5V
N/S
TO D BOARD CN0526
R051 22k :CHIP
C035 0.022 25V :CHIP
C036 0.47 25V F:CHIP
R052 10k :CHIP
R053 4.7k :CHIP
Q003 2SC2412K NS-SW
4.8
0.3
C037 100p :CHIP
R054 22k :CHIP
R055 22k :CHIP
C550 1000p SL:CHIP
AGC ATT
BGND
B/G D/K
MUTE
MONO
ABL
TV ID
BLK
DGND
SCL
AFT
SDA
CS
V OFF
IK
V PULSE
V S/S
SYNC IN
FH
VIDEO
VLC
TV5
H PULSE
LC
H SYNC
5V STBY
TXT BLK
JGND
COR
J5V
R
12V
G
B
SSCP
STBY
CN1413 40P WHT :BTOB-P TO A BOARD CN0116
12V
L563 2.2mH :EL0606
CN1441 8P RED :S-MICRO
SDA
SCL
GND
VIDEO
SSCP
H.SAW
REF
GND
TO V BOARD CN1741
R016 680 :CHIP
Q002 2SA1037K REST-SW
4.3
5
R007 10k :CHIP
R018 470 :CHIP
R017 1k :CHIP
C016 0.001 :CHIP
D001 MA3039H
R015 0 :CHIP
C014 100p :CHIP
R014 1k :CHIP
C012 100p :CHIP
R012 1k :CHIP
R011 1k :CHIP
C011 100p :CHIP
C010 100p :CHIP
R010 1k :CHIP
R008 1k :CHIP
R006 1k :CHIP
C008 100p :CHIP
C003 100p :CHIP
R570 1k :CHIP
R032 1k :CHIP
C032 100p :CHIP
R038 10k :CHIP
R003 1k :CHIP
12V
5V
C007 100p :CHIP
L001 100μH :EL0606
C018 2.2 16V F:CHIP
C019 22
5V
12V
M
MICRO CONTROLLER, GEOMETRIC CONTROLLER, JUNGLE, H-DRIVE


8
9
10
11
12
13
14
15
16
17
18
19
CN1432 7P RED :S-MICRO
SIRCS
LED A
LED B
LED RESP
LED REC
STBY 5V
GND
TO H2 BOARD CN1132
5V
R551 1k :CHIP
R547 1k :CHIP
R026 1k :CHIP
R028 12k :CHIP
R025 1k :CHIP
R030 1k :CHIP
C547 0.0082 B:CHIP
Q566 2SC2412K BUFF
R535 2.2k :CHIP
R536 2.2k :CHIP
R564 56k :CHIP
C566 0.01 F:CHIP
R568 330k :CHIP
C546 0.1 25V B:CHIP
R542 100 :CHIP
R541 1k :CHIP
DIGITAL PART
AFC
VSS3
VSY
SYS
BLK
VSS1
PHA
VDD3
SCL
PRS
SL1
DBL
SDA
VDD1
TS1
TS2
TCLK
VDD2
VTM
NC
VSS2
TSA
TPA
AV1
AV03
AVS3
GEOMETR
C001 100p :CHIP
R020 1k :CHIP
R021 4.7k :CHIP
R033 1k :CHIP
R016 680 :CHIP
Q002 2SA1037K REST-SW
R018 470 :CHIP
R007 10k :CHIP
R017 1k :CHIP
C016 0.001 :CHIP
D001 MA3039H
R015 0 :CHIP
CD001 12MHZ
R070 330 :CHIP
R069 330 :CHIP
R068 560 :CHIP
R067 560 :CHIP
L561 10μH :EL0606
C563 0.01 F:CHIP
Q565 2SC2412K BUFF
Q564 2SA1037K BUFF
R552 100k :CHIP
R545 220 :CHIP
C562 JR :CHIP
C549 0.033 25V B:CHIP
R544 33k :CHIP
R559 1k :CHIP
C543 0.0022 B:CHIP
L562 10μH :EL0606
C564 0.01 F:CHIP
C565 0.01 F:CHIP
R546 3.3k :CHIP
R522 33k :CHIP
R014 1k :CHIP
R012 1k :CHIP
R011 1k :CHIP
C011 100p :CHIP
C010 100p :CHIP
R010 1k :CHIP
R008 1k :CHIP
R006 1k :CHIP
C008 100p :CHIP
C003 100p :CHIP
R570 1k :CHIP
R032 1k :CHIP
C032 100p :CHIP
XTAL1
VSS
VDD
SAT STBY
STBY
SDA
SCL
LED RESP
LED REC
LED B
LED A
XTAL2
RESET
ADC ATT
N/S
B/G G/K
MONO
TV IB
TRACKING
MUTE
HAFC
BLK
SIRCS
50/60
P/B1
HSYNC
UART1
UART2
INT Q
MBLEN
SAT AFT
SAT LVL
LC
AFT
CS
V PULSE
ABREF
PSEN
AGGND
IC001 SDA30C162 MICRO-CONTR.
IC003 M27C512-20B1-AE2 SOFTWARE-EPROM
A15
A12
A7
A6
A5
A4
A3
A2
A1
A0
D0
D1
D2
A14
A13
A8
A9
A11
OE
A10
CE
D7
D6
D5
D4
D3
IC563 MC78L05ACPRP 5V REG
12V
R531 33k :CHIP
C532 0.22 16V B:CHIP
C531 0.047 B:3216
Q502 2SC2412K BUFF
R521 1.5k :CHIP
R515 1k :CHIP
C559 0.1 25V B:CHIP
R524 3.9k :CHIP
R523 4.7k :CHIP
IC501 TDA2595-V9 JUNGLE/H-DRIVE
V-PULSE
PROT
SLICE
VIDEO
C507 0.22 16V B:CHIP
C506 0.33 16V B:3216
R516 390 :CHIP
R517 390 :CHIP
Q503 DTC144EK SW
R509 390 :CHIP
Q509 2SC2412K SYNC-SW
D510 MA3056
R526 10k :CHIP
R527 39k :CHIP
R506 1k :CHIP
Q508 DTC144EK SYNC-SW
R038 10k :CHIP
R003 1k :CHIP
R049 1k :CHIP
R001 100 :CHIP
R050 10k :CHIP
R002 100 :CHIP
R034 2.2k :CHIP
R035 2.2k :CHIP
C538 0.22 B:CHIP
ABL
GND
HD
H-PULSE
X-RAY
TO D BOARD CN0506
CN1406 5P BLK :S-MICRO


13
14
15
16
17
18
19
20
21
22
23
TO H2 BOARD
CN1132
<5V>
R551 1k :CHIP
R547 1k :CHIP
R026 1k :CHIP
R028 12k :CHIP
Q567
DTC144EK
50/60 SW
R560 10k :CHIP
C547 0.0082 B:CHIP
Q566 2SC2412K BUFF
R535 2.2k :CHIP
R536 2.2k :CHIP
R030 1k :CHIP
C566 0.01 F:CHIP
R568 330k :CHIP
C546 0.1 25V B:CHIP
R542 100 :CHIP
R541 1k :CHIP
R033 1k :CHIP
C567 0.001 B:CHIP
R564 56k :CHIP
C568 1000p B:CHIP
C569 0.0022 B:CHIP
C522 1000p SL:CHIP
R539 1.8k RN:CHIP
C570 0.33 16V B:3216
R565 4.7k :CHIP
R566 10k :CHIP
R567 33k :CHIP
C542 0.022 25V B:CHIP
C541 0.01 B:CHIP
AFC
VSS3
VSY
SYS
BLK
VSS1
PHA
VOFF
HIN
AVS2
ØPA
ØXPA
APA
PAR
AVD2
AVD4
OP1
OPO
GURD
VC1
AVS4
BIAS
AVD1
SAW
VDD3
SCL
PRS
SL1
DBL
SDA
VDD1
TS1
TS2
TCLK
VDD2
VTM
DIGITAL PART
ANALOG PART
IC561
CXD2018Q
GEOMETRIE-CONTR.
NC
VSS2
TSA
TPA
AVD3
AV1
AVS3
ØSA
ØXSA
AVS1
SOP
XSOP
L561 10μH :EL0606
C563 0.01 F:CHIP
Q565 2SC2412K BUFF
Q564 2SA1037K BUFF
R552 100k :CHIP
C562 JR :CHIP
R545 220 :CHIP
C549 0.033 25V B:CHIP
R544 33k :CHIP
R559 1k :CHIP
C543 0.0022 B:CHIP
C544 0.0022 B:CHIP
L562 10μH :EL0606
C564 0.01 F:CHIP
C565 0.01 F:CHIP
R546 3.3k :CHIP
C523 1000p SL:CHIP
R522 33k :CHIP
R538 100 :CHIP
IC562
LM358DR-E1
BUFF
R553 33k :CHIP
C531 0.047 B:3216
R531 33k :CHIP
C532 0.22 16V B:CHIP
R533 220k :CHIP
C560 0.0022 B:CHIP
R068 560 :CHIP
R067 560
LED A
D0 D1 D2 D3 D4 D5
D6
D7
ADREF
PSEN
ADGND
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10
C5
V PULSE
A15 A14 A13 A12 A11
IC003
M27C512-20B1-AE2
SOFTWARE-EPROM
A15 A12 A7 A6 A5 A4 A3 A2 A1 A0 D0 D1 D2
A14 A13 A8 A9 A11 OE A10 CE D7 D6 D5 D4 D3
IC563
MC78L05ACPRP
5V REG
C559 0.1 25V B:CHIP
<12V>
Q501
DTC144EK
SW
Q502
2SC2412K
BUFF
R518 12k :CHIP
R521 1.5k :CHIP
R514 3.3k :CHIP
R519 220 :CHIP
R520 68k :CHIP
R515 1k :CHIP
C511 0.022 250V :MPS
R525 68k :CHIP
R512 1k :CHIP
R513 22k 1/8W :CHIP
R524 3.9k :CHIP
R523 4.7k :CHIP
D504 DAN202K
D503 MA3047L
C514 33p :CHIP
R540 0 :CHIP
IC501
TDA2595-V9
JUNGLE/H-DRIVE
V-PULSE
PROT
IDENT
SSCP
GND
HD
φ2
FBP
SLICE
VIDEO
φ
VCR
OSC
+B
OSC
R501 820 :CHIP
C507 0.22 16V B:CHIP
C506 0.33 16V B:3216
C509 0.1 25V B:CHIP
RV506 47k
R502 100k :CHIP
C513 0.0015 UJ:3216
R503 5.6k :CHIP
R504 1.5k :CHIP
R516 390 :CHIP
R517 390 :CHIP
C508 0.01 B:CHIP
R532 6.8k SN:RN
C501 0.0082 B:CHIP
C504 0.56 63V :MPS
C505 2.2
Q503 DTC144EK SW
R507 100k :CHIP
R510 10k :CHIP
R528 1k :CHIP
C512 470 16V
C502 0.01 B:CHIP
R509 390 :CHIP
C519 0.0022 B:CHIP
R505 12k :CHIP
Q509 2SC2412K SYNC-SW
R511 100k :CHIP
D510 MA3056
R526 10k :CHIP
C510 2.2
R527 39k :CHIP
D501 DA202K
C503 0.0033
R529 75k :RN-CHIP
C552 0.022 25V B:CHIP
R034 2.2k :CHIP
R035 2.2k :CHIP
Q508 DTC144EK SYNC-SW
R506 1k :CHIP
L501 1mH :EL0606
JR002
JUNGLE GND (TDA2595)
MICR-CONTR. GND (SDA30C162)
GEOM.CONTR.GND (CXD2018)
C538 0.22 B:CHIP
ABL
GND
HD
H-PULSE
X-RAY
TO D BOARD
CN0506
CN1406
5P
BLK
:S-MICRO
B-SS4260<AEP>-M..

– M BOARD –


1
2
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6
7
A
B
C
D
E
(170527411)
1-642-988-11
M
CAD
SONY
IC001
IC003
CN1426
CN1406
CN1413
CN1432
CN1435
CN1441
RV506
DIP

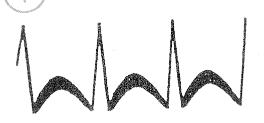
Note :

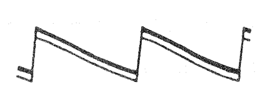
- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

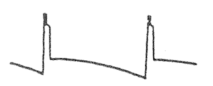
IC		DIODE	
IC001	D – 2	D001	E – 1
IC003	D – 3	D501	B – 1
IC501	C – 3	D503	B – 3
IC561	A – 6	D504	C – 2
IC562	A – 5	D510	A – 1
IC563	A – 1		

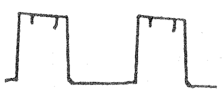
TRANSISTOR		VARIABLE RESISTOR	
Q002	E – 2	RV506	B – 3
Q003	D – 2		
Q501	C – 2		
Q502	B – 2		
Q503	C – 2		
Q508	C – 2		
Q509	B – 2		
Q564	A – 2		
Q565	A – 2		
Q566	B – 3		
Q567	A – 3		

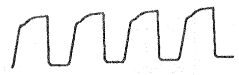
• WAVEFORMS D BOARD

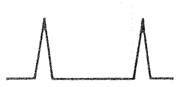
①

250Vp-p (H)

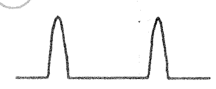
②

3 Vp-p (V)

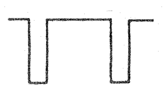
③

56 Vp-p (V)

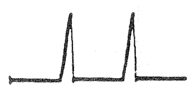
④

4.2 Vp-p (H)

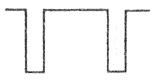
⑤

175 Vp-p (H)

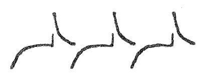
⑥

220 Vp-p (H)

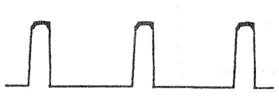
⑦

940 Vp-p (H)

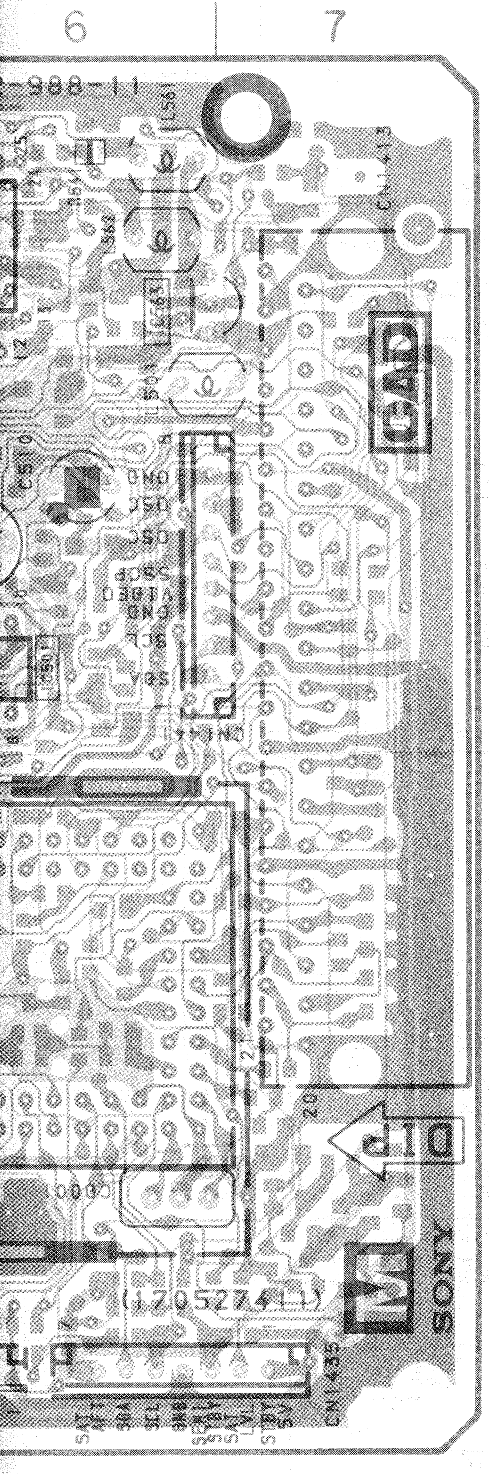
⑧

19 Vp-p (H)

⑨

8.4 Vp-p (H)

⑩

19 Vp-p (H)

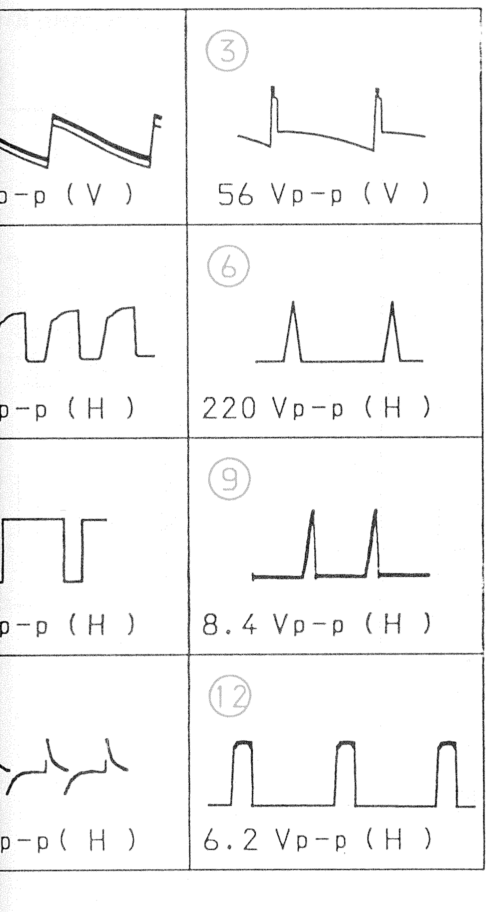
⑪

17.5Vp-p (H)

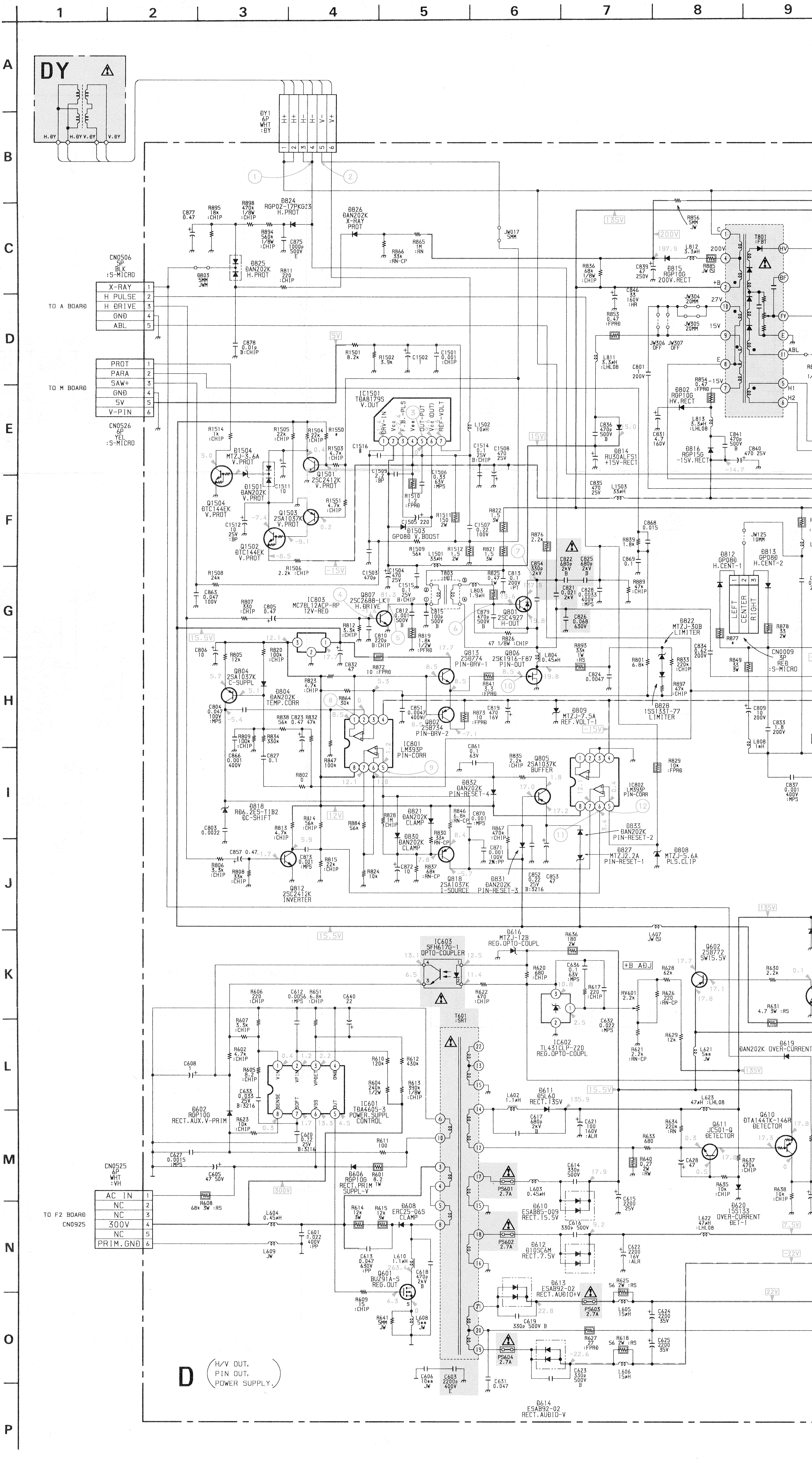
⑫

6.2 Vp-p (H)


6
7
2-988-11
CN1413
CAD
D
M
SONY
(1705274 11)
CN1435
GND
VIDEO
SCL
SDA
SSCP

▨ : Pattern from the side which enables seeing.

▨ : Pattern of the rear side.




1
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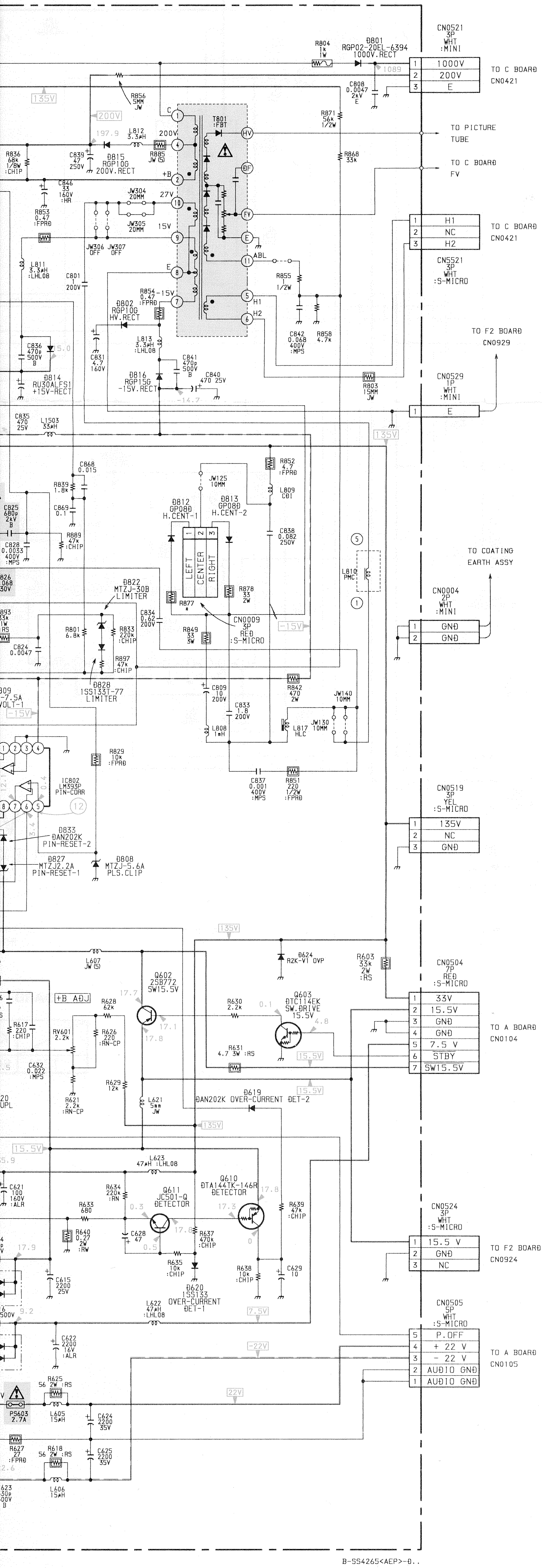
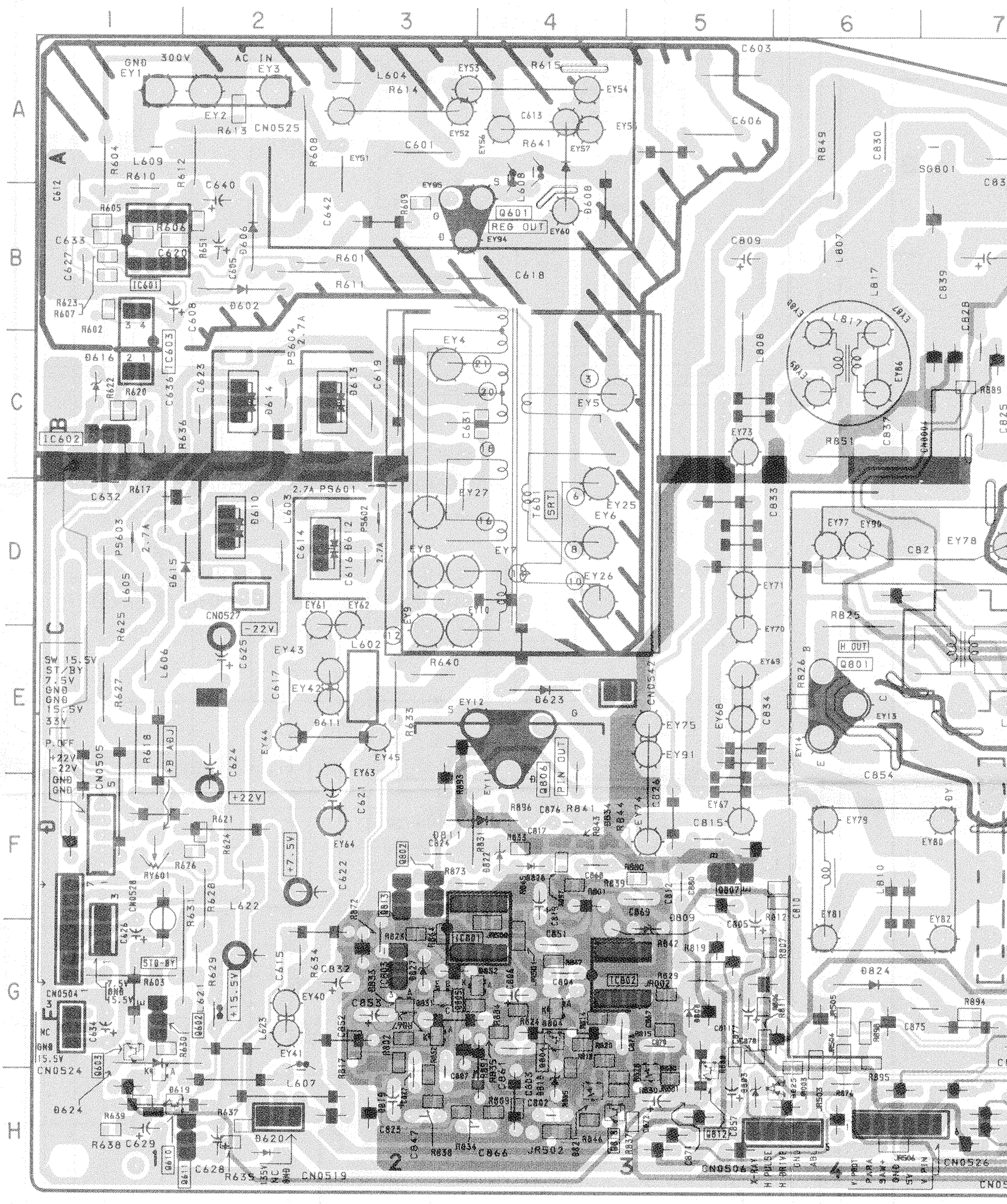
9
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
DY
DY1 6P WHT :DY
H+ H+ H- H- V- V+
H.DY
V.DY
CN0506 5P BLK :S-MICRO
X-RAY
H PULSE
H DRIVE
GND
ABL
TO A BOARD
PROT
PARA
SAW+
GND
5V
V-PIN
TO M BOARD
CN0526 6P YEL :S-MICRO
D824 RGP02-17PKG23 H.PROT
D826 DAN202K X-RAY PROT
D825 DAN202K H.PROT
IC1501 TDA8179S V.OUT
Q1504 DTC144EK V.PROT
D1504 MTZJ-3.6A V.PROT
Q1501 2SC2412K V.PROT
D1501 DAN202K V.PROT
Q1503 2SA1037K V.PROT
Q1502 DTC144EK V.PROT
D1503 GP08D V.BOOST
IC803 MC78L12ACP-RP 12V-REG
Q807 2SC2688-LK H.DRIVE
T803 :HDT
Q801 2SC4927 H-OUT
Q813 2SD774 PIN-DRV-1
Q806 2SK1916-F87 PIN-OUT
Q804 2SA1037K C-SUPPL
D804 DAN202K TEMP.CORR
Q802 2SB734 PIN-DRV-2
IC801 LM393P PIN-CORR
D809 MTZJ-7.5A REF.VOLT-1
Q805 2SA1037K BUFFER
D832 DAN202K PIN-RESET-4
IC802 LM393P PIN-CORR
D818 RD6.2ES-T1B2 DC-SHIFT
D821 DAN202K CLAMP
D830 DAN202K CLAMP
D833 DAN202K PIN-RESET-2
D827 MTZJ2.2A PIN-RESET-1
D808 MTZJ-5.6A PLS.CLIP
Q812 2SC2412K INVERTER
Q818 2SA1037K I-SOURCE
D831 DAN202K PIN-RESET-3
T801 :FBT
HV
FV
ABL
H1
H2
D815 RGP10G 200V.RECT
D802 RGP10G HV.RECT
D816 RGP15G -15V.RECT
D814 RU3OALFS1 +15V-RECT
D812 GP08D H.CENT-1
D813 GP08D H.CENT-2
LEFT CENTER RIGHT
D822 MTZJ-30B LIMITER
D828 1SS133T-77 LIMITER
CN0009 3P RED :S-MICRO
135V
200V
15V
5V
-15V
15.5V
12V
IC603 SFH617G-1 OPTO-COUPLER
D616 MTZJ-12B REG.OPTO-COUPL
Q602 2SB772 SW15.5V
+B ADJ
IC602 TL431CLP-Z20 REG.OPTO-COUPL
D619 DAN202K OVER-CURRENT
T601 :SRT
IC601 TDA4605-3 POWER.SUPPL CONTROL
D602 RGP10G RECT.AUX.V-PRIM
D611 D5L60 RECT.135V
Q610 DTA144TK-146R DETECTOR
Q611 JC501-Q DETECTOR
D620 1SS133 OVER-CURRENT DET-1
D606 RGP10G RECT.PRIM SUPPL-V
D608 ERC25-06S CLAMP
D610 ESAB85-009 RECT.15.5V
D612 D10SC6M RECT.7.5V
Q601 BUZ91A-S REG.OUT
D613 ESAB92-02 RECT.AUDIO+V
D614 ESAB92-02 RECT.AUDIO-V
PS601 2.7A
PS602 2.7A
PS603 2.7A
PS604 2.7A
CN0525 6P WHT :VH
AC IN
NC
NC
300V
NC
PRIM.GND
TO F2 BOARD CN0925
7.5V
-22V
22V
300V
D
H/V OUT, PIN OUT, POWER SUPPLY


CN0521 3P WHT :MINI
1000V
200V
E
TO C BOARD CN0421
TO PICTURE TUBE
TO C BOARD FV
H1
NC
H2
TO C BOARD CN0421
CN5521 3P WHT :S-MICRO
TO F2 BOARD CN0929
CN0529 1P WHT :MINI
T801 FBT
D801 RGP02-20EL-6394 1000V.RECT
D815 RGP10G 200V.RECT
D802 RGP10G HV.RECT
D816 RGP15G -15V.RECT
D814 RU3OALFS1 +15V-RECT
D812 GP08D H.CENT-1
D813 GP08D H.CENT-2
LEFT CENTER RIGHT
CN0009 3P RED :S-MICRO
TO COATING EARTH ASSY
CN0004 2P WHT :MINI
GND
GND
D822 MTZJ-30B LIMITER
D828 1SS133T-77 LIMITER
IC802 LM393P PIN-CORR
D833 DAN202K PIN-RESET-2
D827 MTZJ2.2A PIN-RESET-1
D808 MTZJ-5.6A PLS.CLIP
L817 HLC
CN0519 3P YEL :S-MICRO
135V
NC
GND
D624 RZK-V1 OVP
Q602 2SB772 SW15.5V
Q603 DTC114EK SW.DRIVE 15.5V
CN0504 7P RED :S-MICRO
33V
15.5V
GND
GND
7.5 V
STBY
SW15.5V
TO A BOARD CN0104
+B ADJ
RV601 2.2k
D619 DAN202K OVER-CURRENT DET-2
Q611 JC501-Q DETECTOR
Q610 DTA144TK-146R DETECTOR
D620 1SS133 OVER-CURRENT DET-1
CN0524 3P WHT :S-MICRO
15.5 V
GND
NC
TO F2 BOARD CN0924
CN0505 5P WHT :S-MICRO
P.OFF
+ 22 V
- 22 V
AUDIO GND
AUDIO GND
TO A BOARD CN0105
PS603 2.7A
B-SS4265<AEP>-D..

– D BOARD –


1
2
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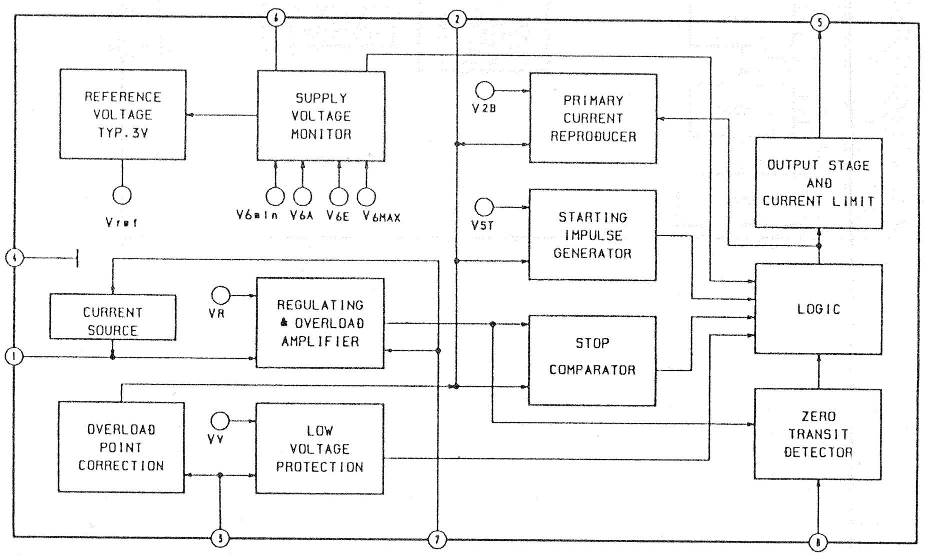
A
B
C
D
E
F
G
H
AC IN
REG OUT
H OUT
Q601
Q801
IC601
IC602
IC603
IC801
IC802
CN0525
CN0527
CN0504
CN0524
CN0519
CN0526
+B ADJ
+22V
-22V
+7.5V
+15.5V
STBY
PIN OUT
SRT

Note :

- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

• D BOARD IC601 TDA4605-3


REFERENCE VOLTAGE TYP.3V
Vref
SUPPLY VOLTAGE MONITOR
V6min V6A V6E V6MAX
V2B
PRIMARY CURRENT REPRODUCER
VST
STARTING IMPULSE GENERATOR
OUTPUT STAGE AND CURRENT LIMIT
LOGIC
CURRENT SOURCE
VR
REGULATING & OVERLOAD AMPLIFIER
STOP COMPARATOR
ZERO TRANSIT DETECTOR
OVERLOAD POINT CORRECTION
VY
LOW VOLTAGE PROTECTION
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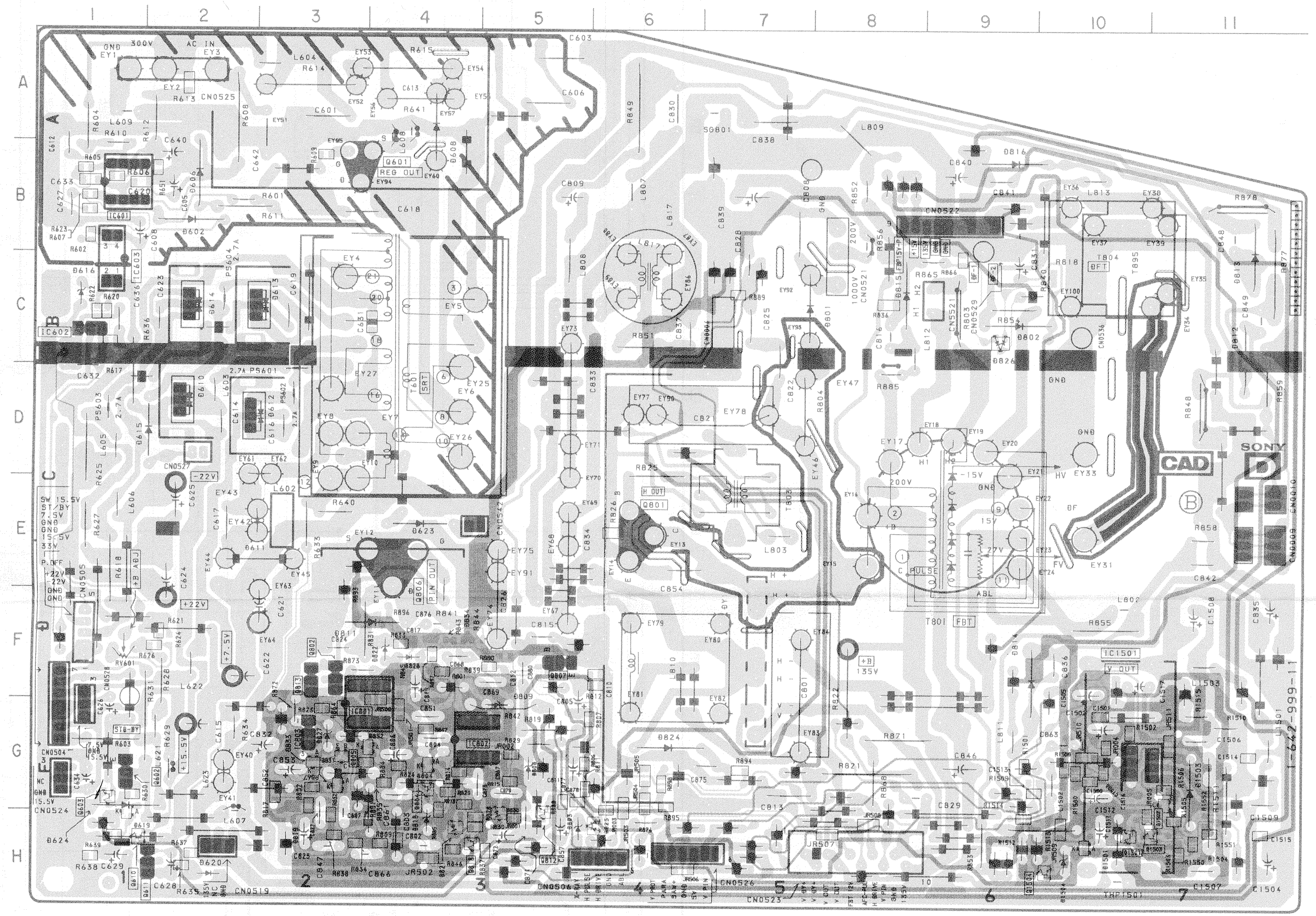
8

– D BOARD –


1
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6
7
8
9
10
11
A
B
C
D
E
F
G
H
SONY
CAD
1-642-999-11

Note :

- ▨ : Pattern from the side which enables seeing.
- ▩ : Pattern of the rear side.

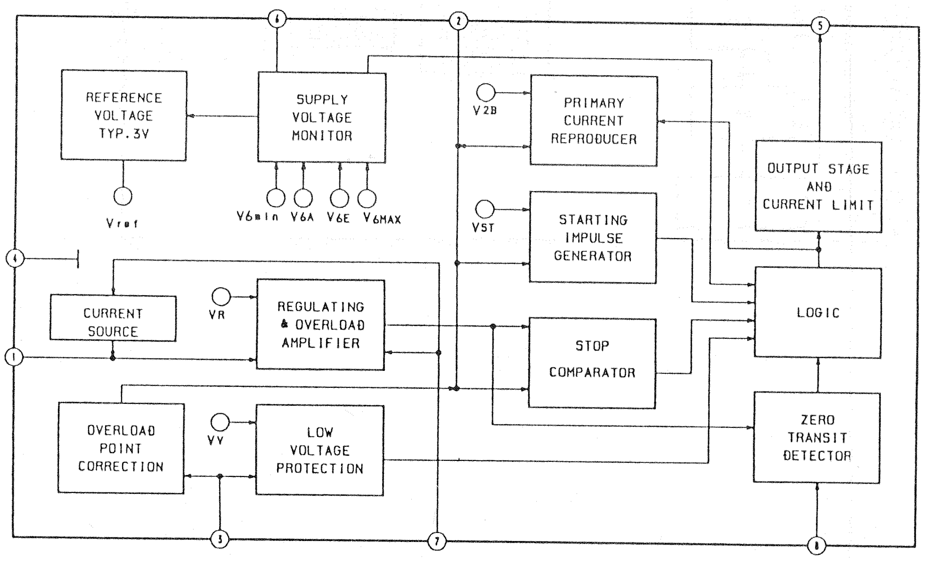
IC	
IC601	B – 1
IC602	C – 1
IC603	C – 1
IC801	G – 3
IC802	G – 4
IC803	G – 3
IC1501	G – 10

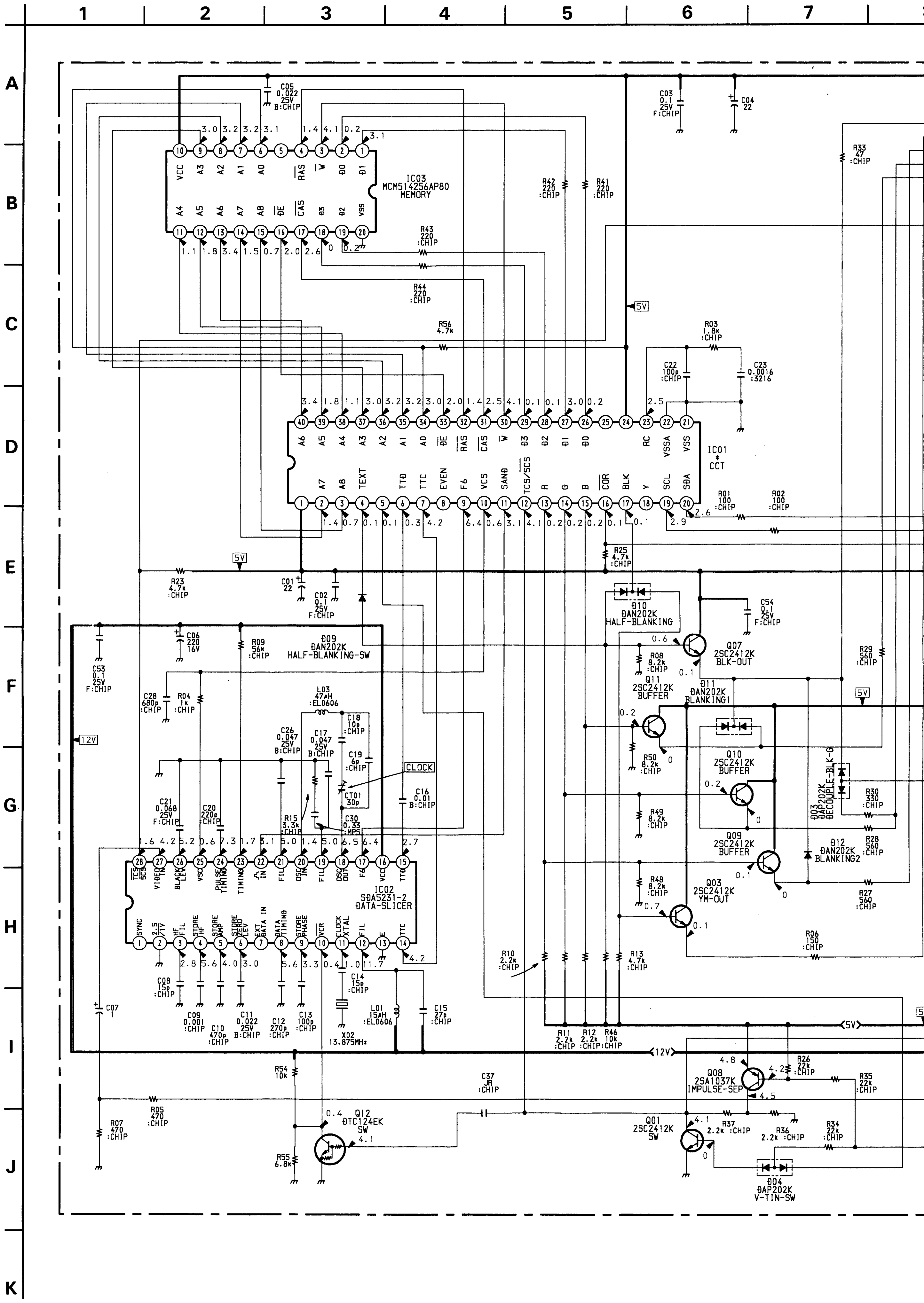
TRANSISTOR	
Q601	B – 3
Q602	G – 1
Q603	G – 1
Q610	H – 1
Q611	H – 2
Q801	E – 6
Q802	F – 3
Q804	G – 4
Q805	G – 3
Q806	E – 4
Q807	F – 5
Q812	H – 5
Q813	F – 3
Q818	H – 4
Q1501	H – 10
Q1502	G – 11
Q1503	H – 11
Q1504	H – 10

DIODE	
D602	B – 2
D606	B – 2
D608	A – 4
D610	D – 2
D611	E – 2
D612	D – 3
D613	C – 3
D614	C – 2
D616	C – 1
D619	H – 1
D620	H – 2
D624	G – 1
D801	C – 7
D802	C – 9
D803	H – 5
D804	G – 4
D808	G – 5
D809	G – 5
D812	C – 11
D813	C – 11
D814	F – 9
D815	C – 8
D816	B – 9
D818	H – 4
D821	H – 4
D822	F – 4
D824	G – 6
D825	H – 6
D826	C – 9
D827	G – 3
D828	F – 4
D830	H – 5
D831	G – 3
D832	G – 4
D833	G – 3
D1501	H – 10
D1503	G – 11
D1504	H – 10

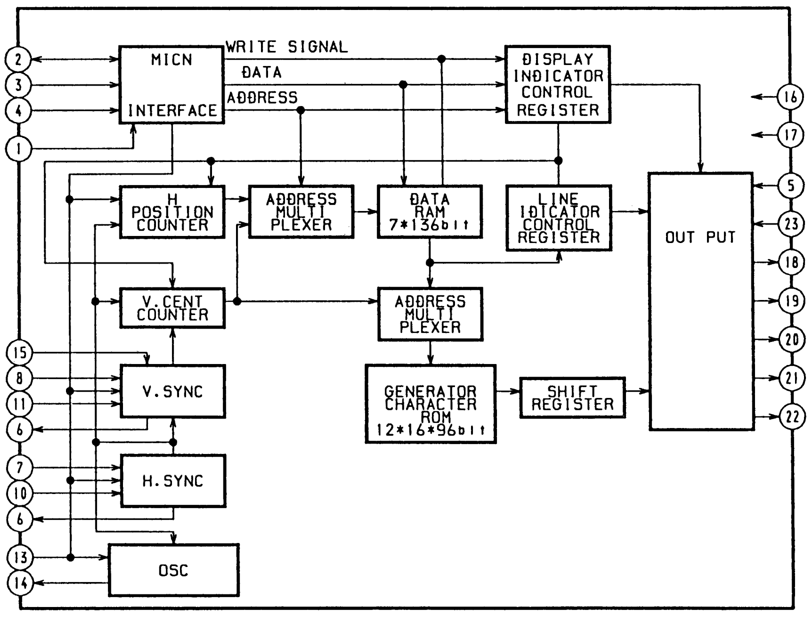
VARIABLE RESISTOR	
RV601	F – 1

• D BOARD IC601 TDA4605-3

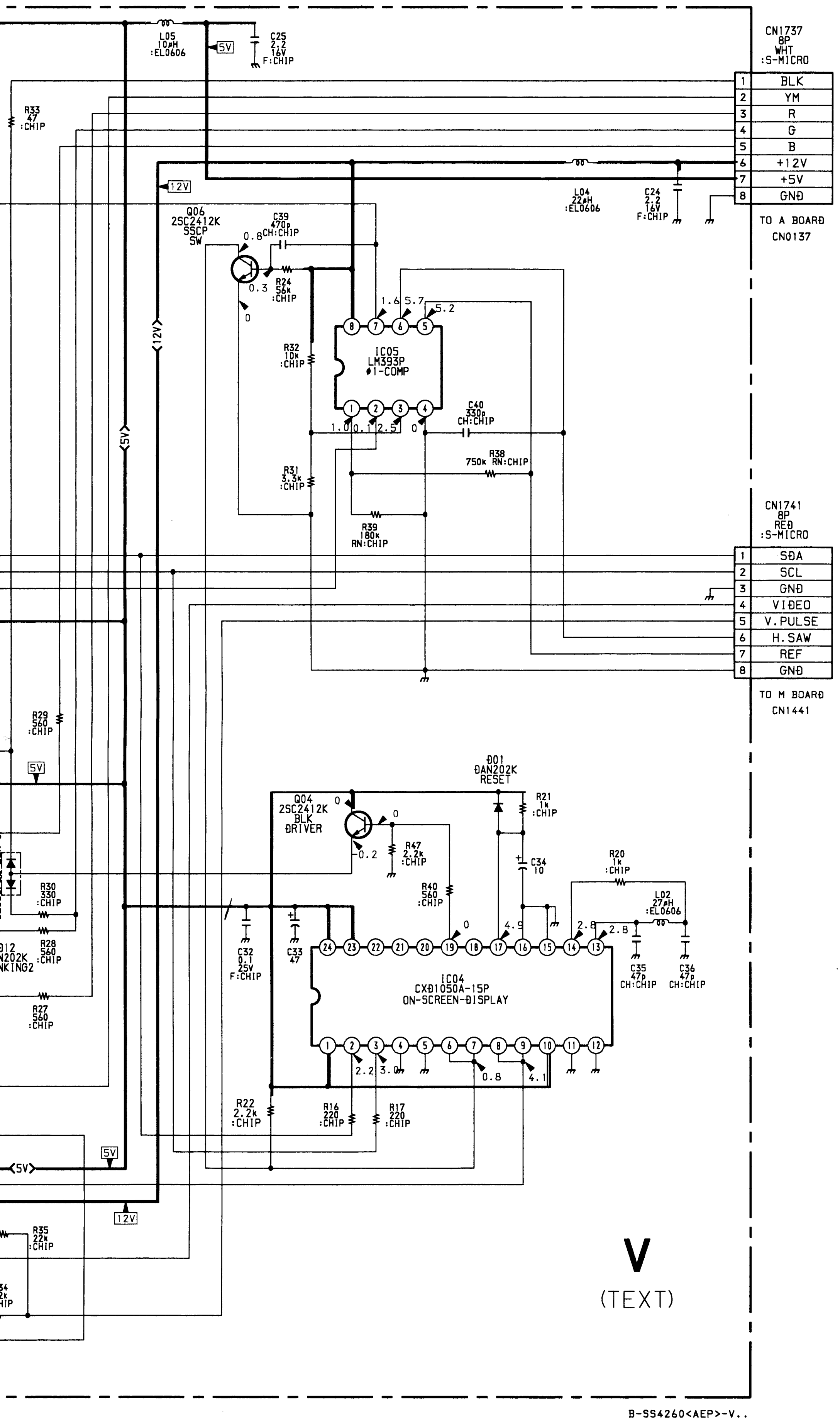

REFERENCE VOLTAGE TYP.3V
SUPPLY VOLTAGE MONITOR
PRIMARY CURRENT REPRODUCER
OUTPUT STAGE AND CURRENT LIMIT
STARTING IMPULSE GENERATOR
LOGIC
CURRENT SOURCE
REGULATING & OVERLOAD AMPLIFIER
STOP COMPARATOR
OVERLOAD POINT CORRECTION
LOW VOLTAGE PROTECTION
ZERO TRANSIT DETECTOR
Vref
V6min
V6A
V6E
V6MAX
V2B
VST
VR
VV
6
2
5
4
1
3
7
8


IC03 MCM514256AP80 MEMORY
IC01 * CCT
IC02 SDA5231-2 DATA-SLICER
CLOCK
CT01 30p
X02 13.875MHz
L01 15μH :EL0606
L03 47μH :EL0606
D09 DAN202K HALF-BLANKING-SW
D10 DAN202K HALF-BLANKING
Q07 2SC2412K BLK-OUT
Q11 2SC2412K BUFFER
D11 DAN202K BLANKING1
Q10 2SC2412K BUFFER
Q09 2SC2412K BUFFER
Q03 2SC2412K YM-OUT
D03 DAP202K BECOUPLE-BLK-G
D12 DAN202K BLANKING2
Q08 2SA1037K IMPULSE-SEP
Q01 2SC2412K SW
Q12 DTC124EK SW
D04 DAP202K V-TIN-SW
5V
12V

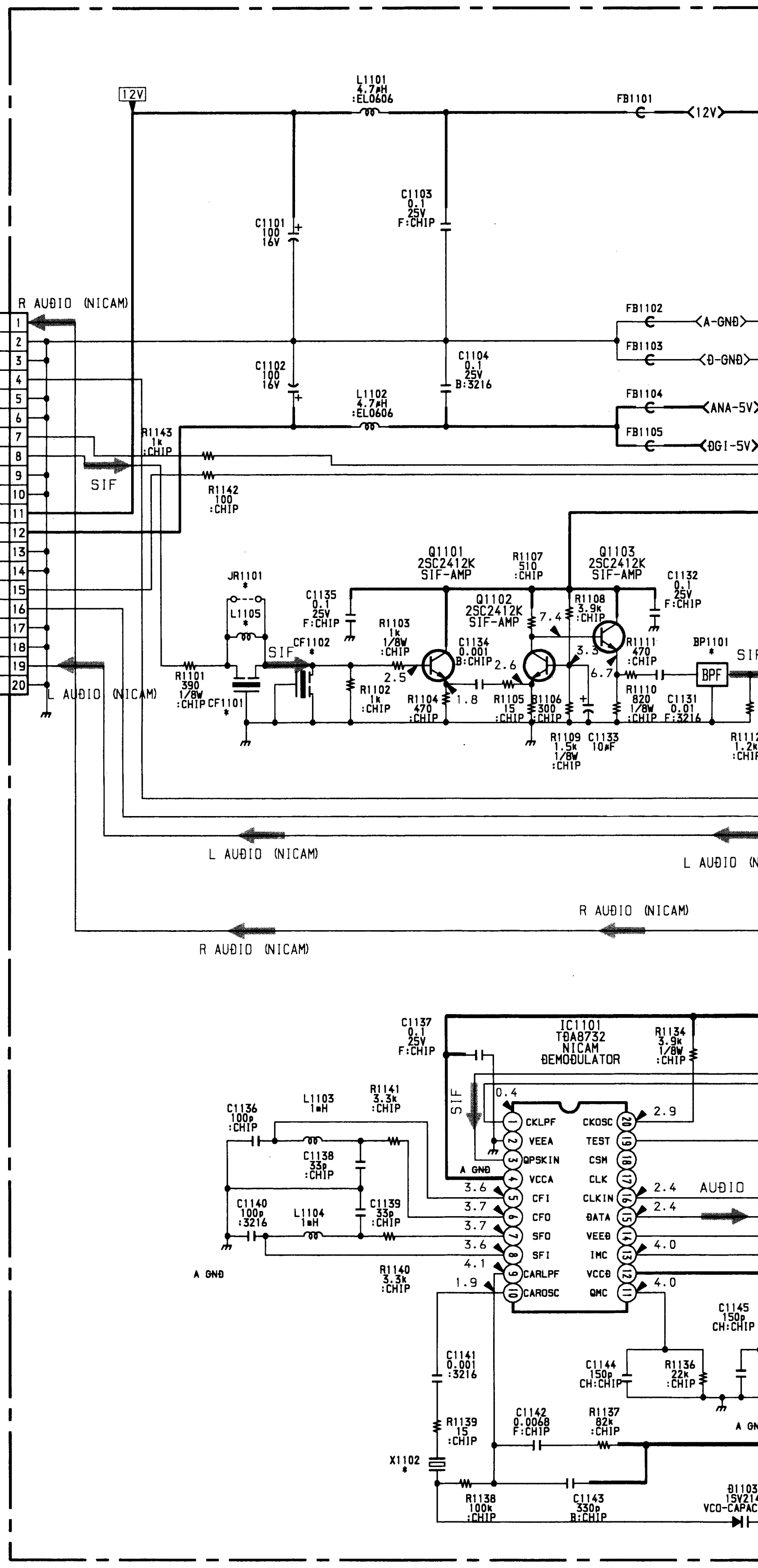
• V BOARD IC04 CXD1050A-15P


MICN INTERFACE
WRITE SIGNAL
DATA
ADDRESS
DISPLAY INDICATOR CONTROL REGISTER
H POSITION COUNTER
ADDRESS MULTI PLEXER
DATA RAM 7*136bit
LINE INDICATOR CONTROL REGISTER
OUT PUT
V.CENT COUNTER
ADDRESS MULTI PLEXER
GENERATOR CHARACTER ROM 12*16*96bit
SHIFT REGISTER
V.SYNC
H.SYNC
OSC

8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18


CN1737
8P
WHT
:S-MICRO
1 BLK
2 YM
3 R
4 G
5 B
6 +12V
7 +5V
8 GND
TO A BOARD
CN0137
Q06
2SC2412K
SSCP
SW
IC05
LM393P
ϕ1-COMP
CN1741
8P
RED
:S-MICRO
1 SDA
2 SCL
3 GND
4 VIDEO
5 V.PULSE
6 H.SAW
7 REF
8 GND
TO M BOARD
CN1441
D01
DAN202K
RESET
Q04
2SC2412K
BLK
DRIVER
IC04
CXD1050A-15P
ON-SCREEN-DISPLAY
<12V>
<5V>
V
(TEXT)
B-SS4260<AEP>-V..

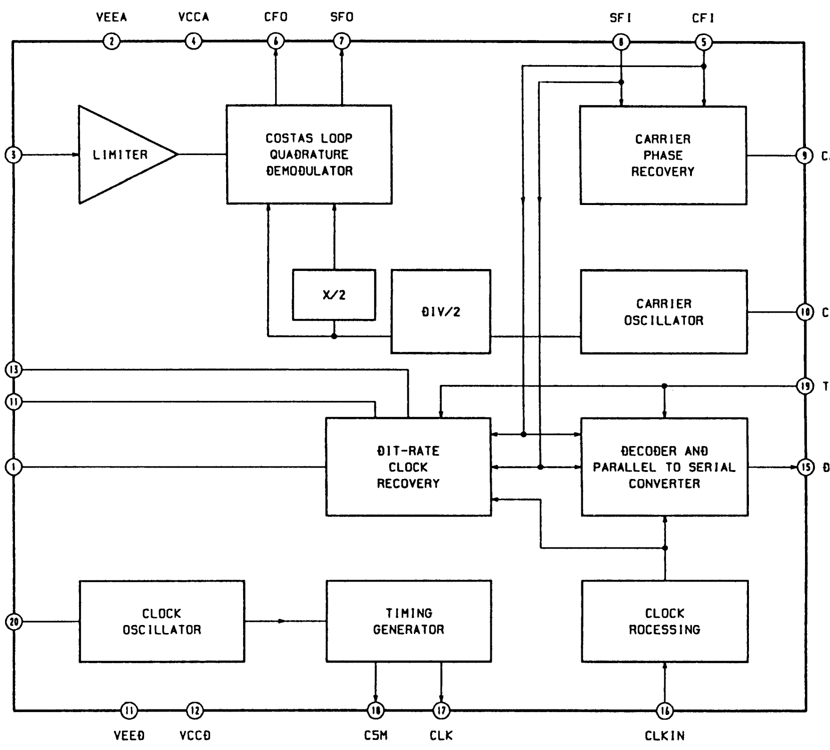
KV-B2512U/B2513E only

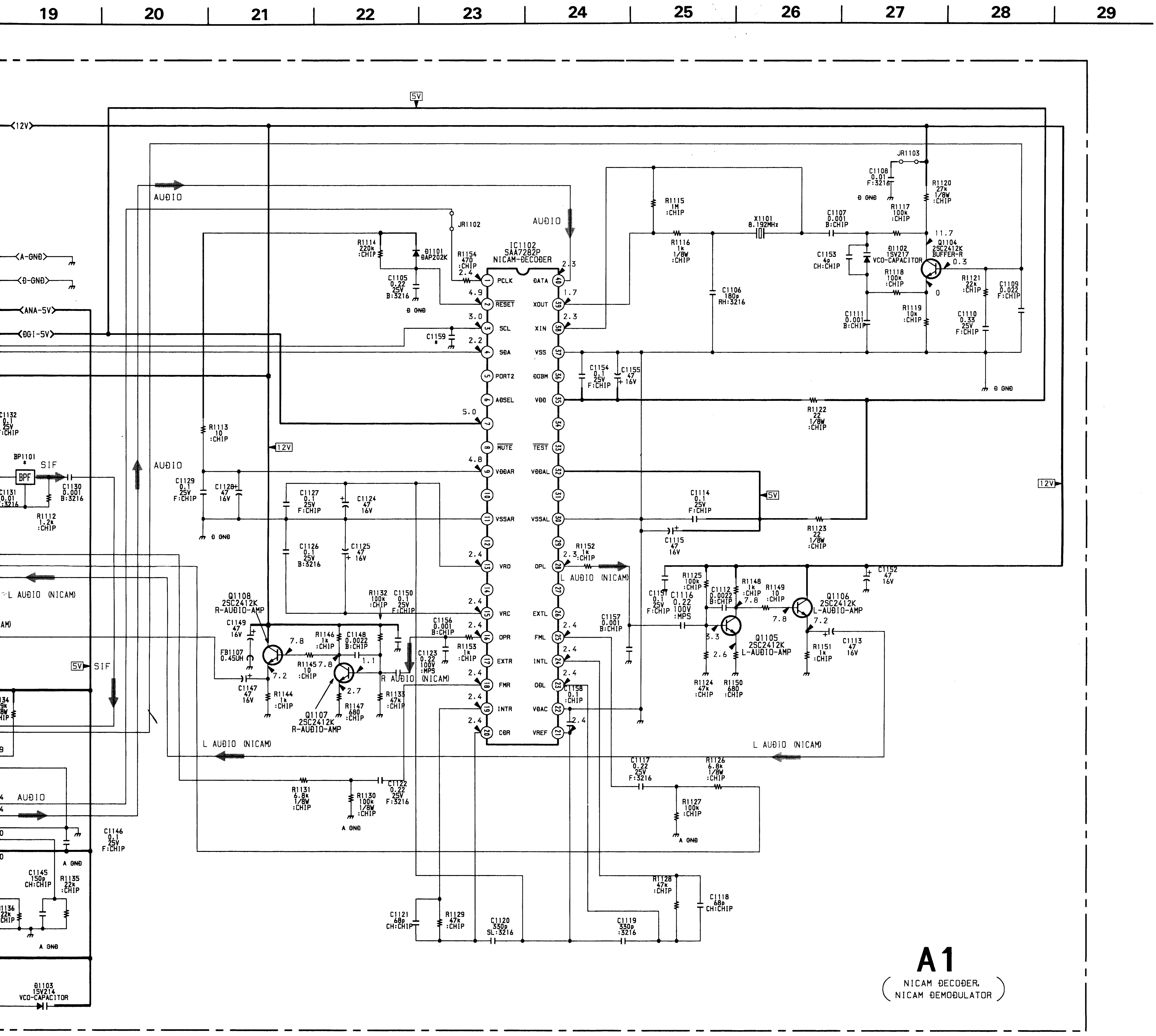

CN0201
20P
WHT
BTOB-P
R AUDIO (NICAM)
1 R OUT
2 GND
3 GND
4 RIN
5 GND
6 GND
7 SCL
8 SIF
9 GND
10 GND
11 12V
12 5V
13 GND
14 GND
15 SDA
16 L IN
17 GND
18 GND
19 L OUT
20 GND
TO A BOARD
CN0101
SIF
L AUDIO (NICAM)
Q1101
2SC2412K
SIF-AMP
Q1102
2SC2412K
SIF-AMP
Q1103
2SC2412K
SIF-AMP
BPF
<12V>
<A-GND>
<D-GND>
<ANA-5V>
<DGI-5V>
IC1101
TDA8732
NICAM
DEMODULATOR
AUDIO
R AUDIO (NICAM)
L AUDIO (NICAM)

• V BOARD

	KV-B2911K	OTHERS
IC01	SDA5248C2	SDA5248C1

• A1 BOARD IC1101 TDA8732

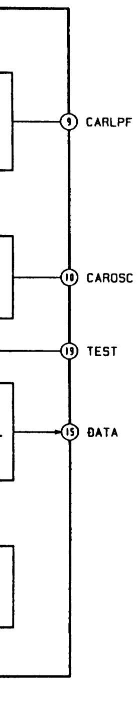

VEEA
VCCA
CFO
SFO
SFI
CFI
QPSKIN
LIMITER
COSTAS LOOP QUADRATURE DEMODULATOR
X/2
DIV/2
CARRIER PHASE RECOVERY
CARRIER OSCILLATOR
IMC
QMC
CLKLPF
BIT-RATE CLOCK RECOVERY
DECODER AND PARALLEL TO SERIAL CONVERTER
CLKOSC
CLOCK OSCILLATOR
TIMING GENERATOR
CLOCK ROCESSING
VEED
VCCD
CSM
CLK
CLKIN


19
20
21
22
23
24
25
26
27
28
29
5V
12V
AUDIO
<A-GND>
<D-GND>
<ANA-5V>
<DGI-5V>
IC1102
SAA7282P
NICAM-DECODER
PCLK
RESET
SCL
SDA
PORT2
ADSEL
MUTE
VDDAR
VSSAR
VRD
VRC
OPR
EXTR
FMR
INTR
CDR
DATA
XOUT
XIN
VSS
DDBM
VDD
TEST
VDDAL
VSSAL
OPL
EXTL
FML
INTL
DDL
VDAC
VREF
X1101
8.192MHz
JR1102
JR1103
D1101
BAP202K
D1102
1SV217
VCO-CAPACITOR
Q1104
2SC2412K
BUFFER-R
Q1105
2SC2412K
L-AUDIO-AMP
Q1106
2SC2412K
L-AUDIO-AMP
Q1107
2SC2412K
R-AUDIO-AMP
Q1108
2SC2412K
R-AUDIO-AMP
BP1101
BPF
SIF
FB1107
0.45UH
L AUDIO (NICAM)
R AUDIO (NICAM)
A GND
D GND
D1103
1SV214
VCO-CAPACITOR

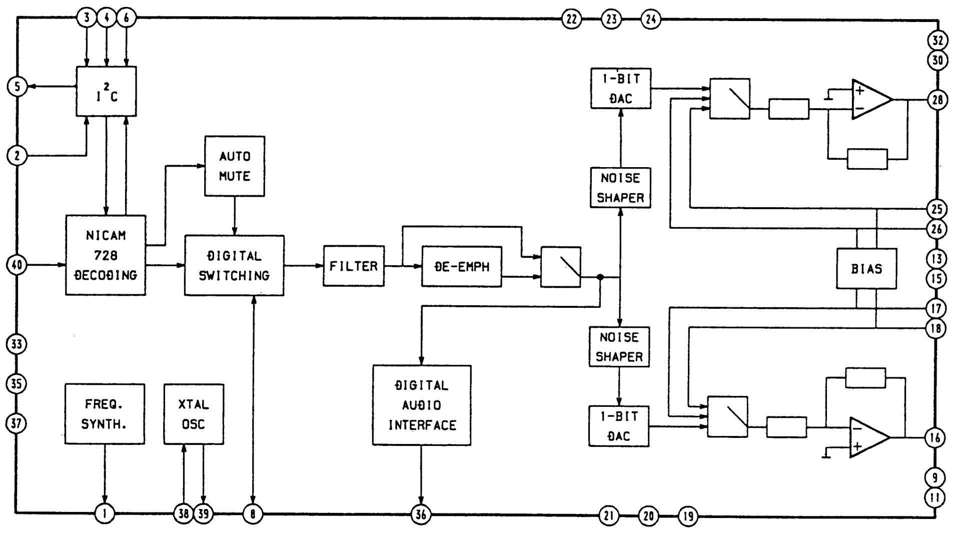
A1

(NICAM DECODER,
NICAM DEMODULATOR)

B-SS4260<AEP>-A1.


CARLPF
CAROSC
TEST
DATA

• A1 BOARD IC1102 SAA7282P

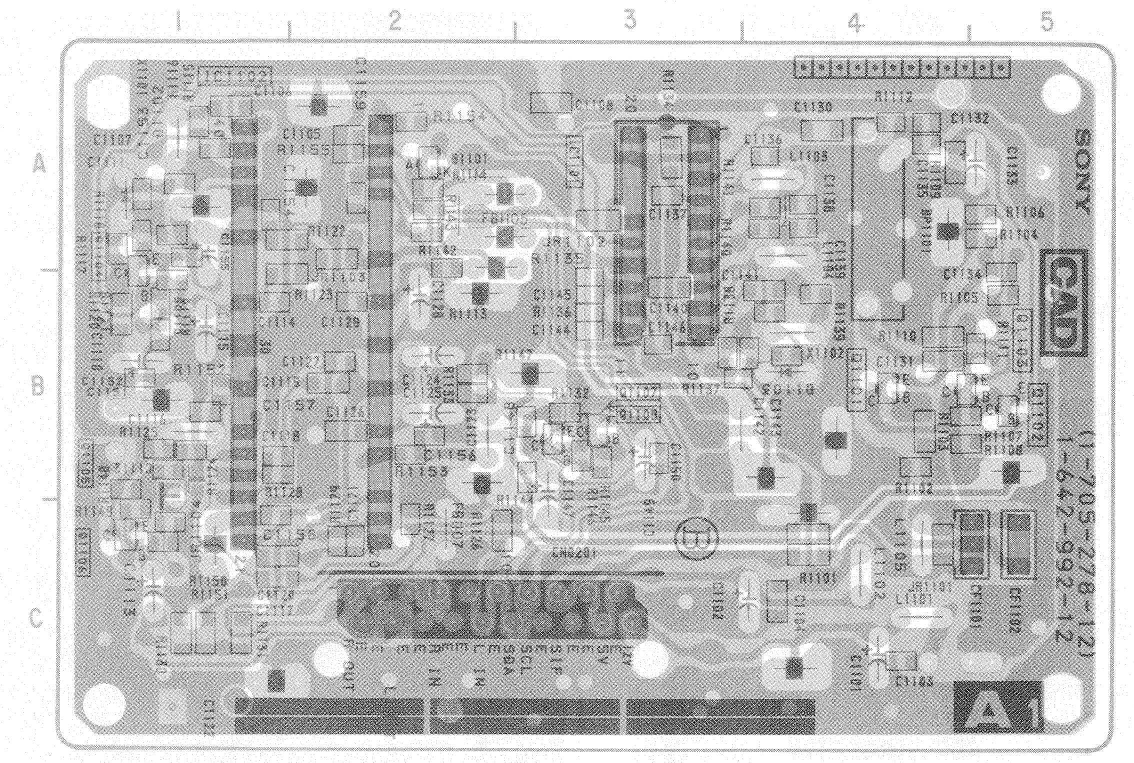

I²C
AUTO MUTE
NICAM 728 DECODING
DIGITAL SWITCHING
FILTER
DE-EMPH
1-BIT DAC
NOISE SHAPER
BIAS
FREQ. SYNTH.
XTAL OSC
DIGITAL AUDIO INTERFACE

• A1 BOARD (KV-B2512U/B2513E only)

	KV-B2513E	KV-B2512U
BP1101	5.850MHz	6.552MHz
C1159	–	47P : CHIP
CF1101	–	6.0MHz
CF1102	5.5MHz	–
JR1101	0 : CHIP	–
L1105	–	15 μ H
X1102	11.700MHz	13.104MHz

A1 [NICAM DECODER, NICAM DEMODULATOR] V [TEXT] C [R. G. B OUT]

– A1 BOARD – (KV-B2512U/B2513E only)


SONY
CAD
A1
IC1101
IC1102
CN8201
1-705-278-12
1-642-992-12

IC	
IC1101	A – 3
IC1102	B – 2

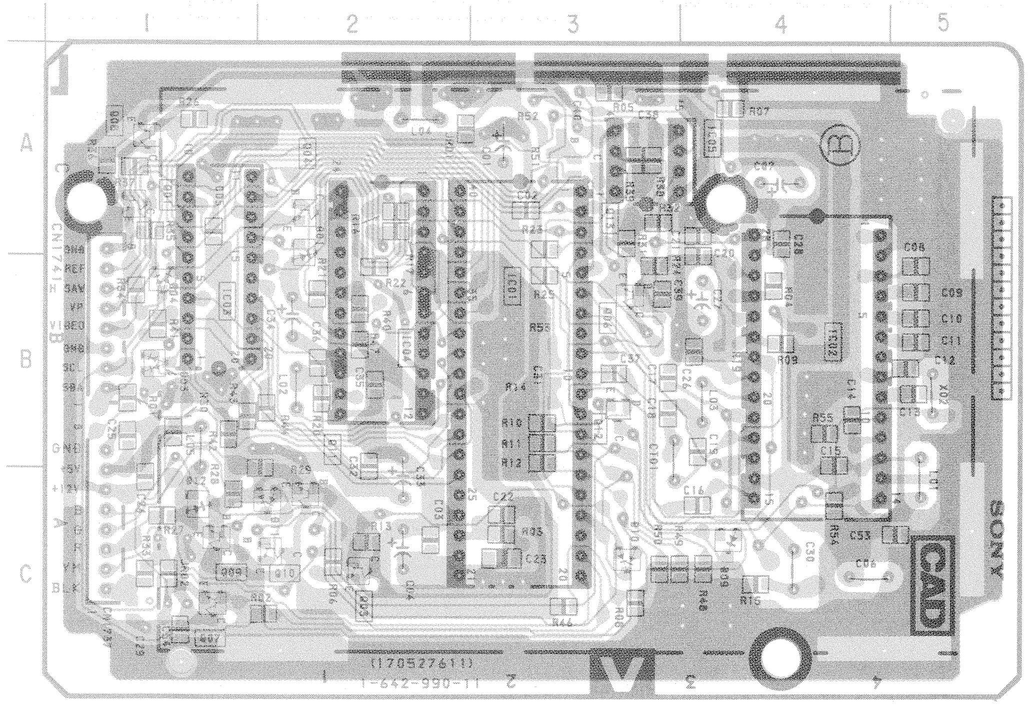
TRANSISTOR	
Q1101	B – 4
Q1102	B – 5
Q1103	B – 5
Q1104	A – 1
Q1105	B – 1
Q1106	C – 1
Q1107	B – 3
Q1108	B – 3

DIODE	
D1101	A – 2
D1102	A – 1
D1103	B – 4

Note :

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

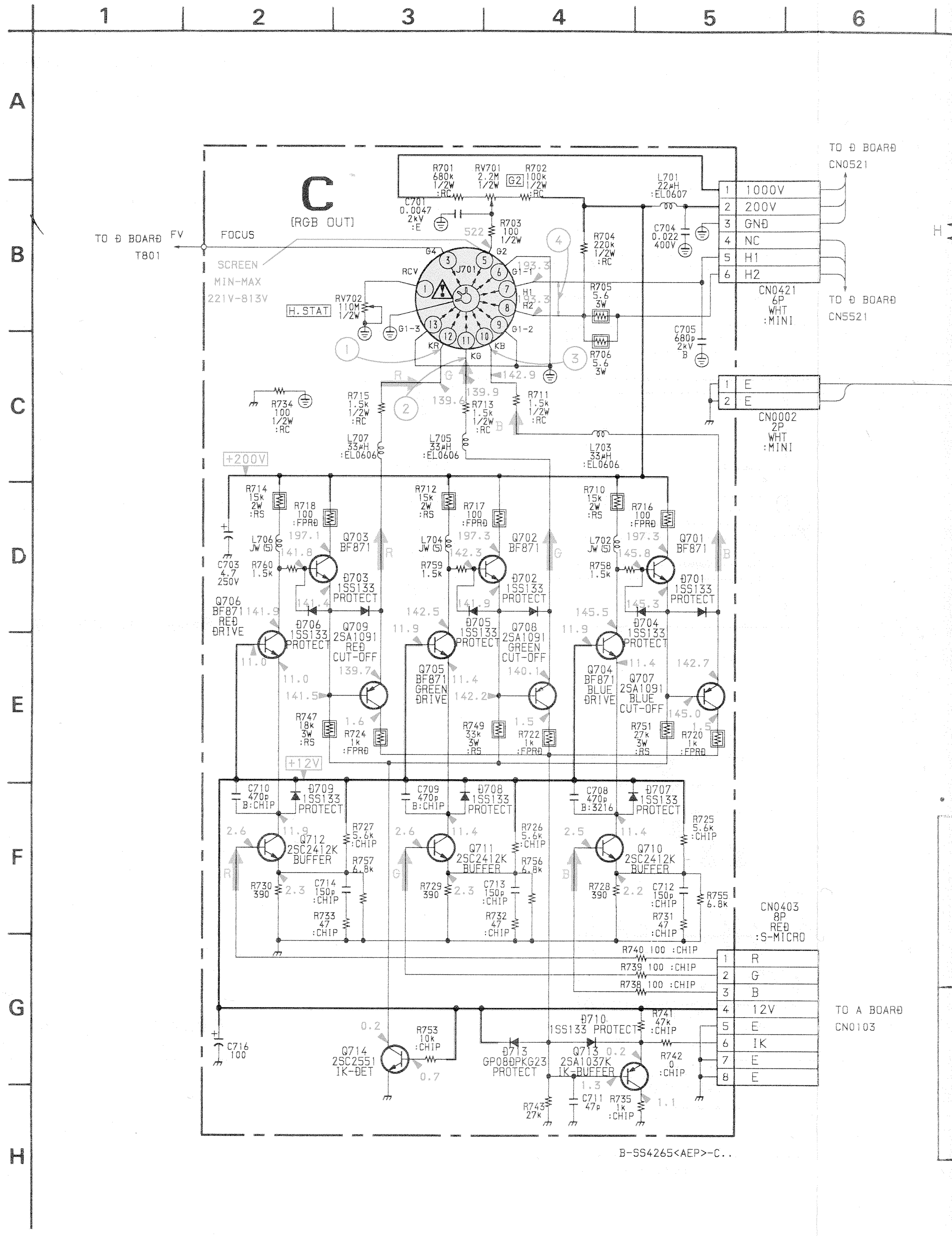
– V BOARD –

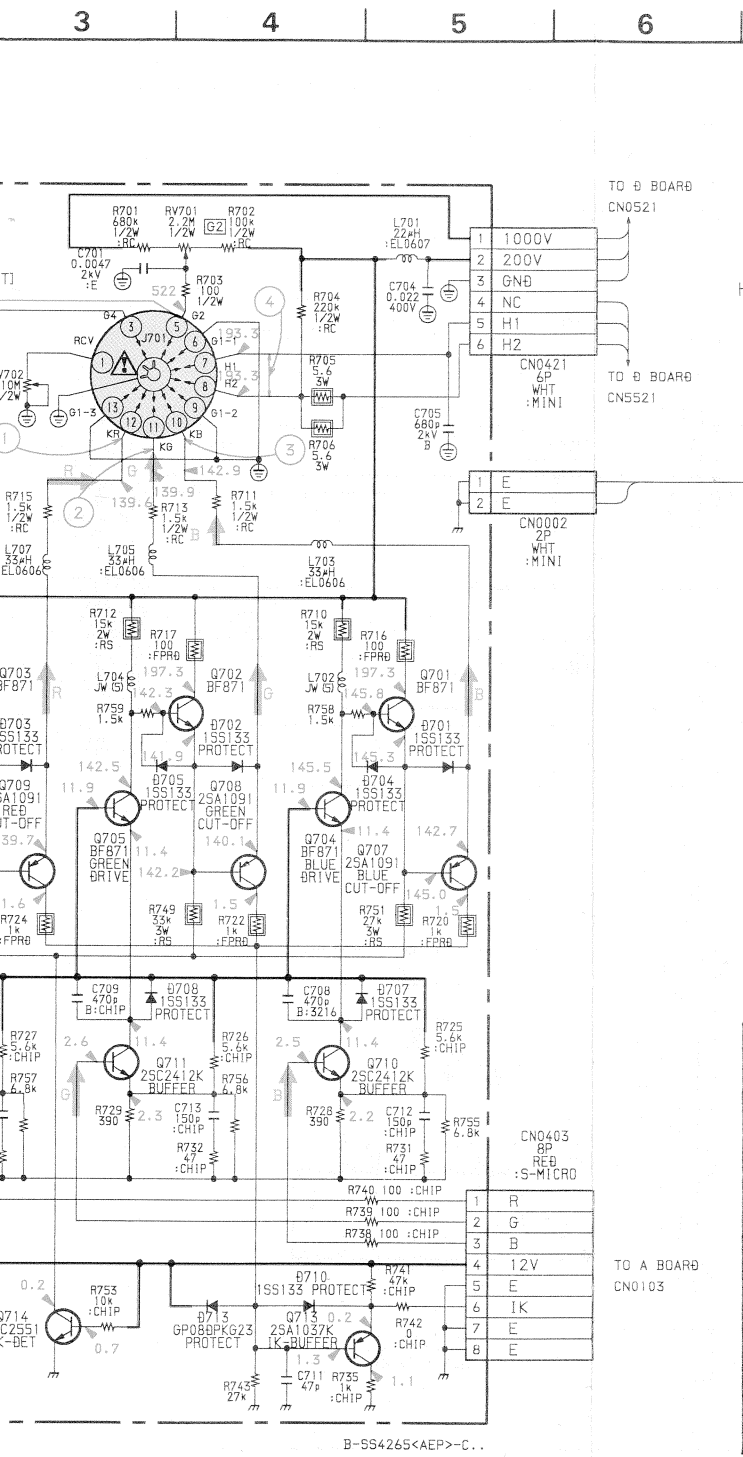

SONY
CAD
V
1705276111
1-642-990-11

IC	
IC01	B – 3
IC02	B – 4
IC03	B – 1
IC04	B – 2
IC05	A – 4

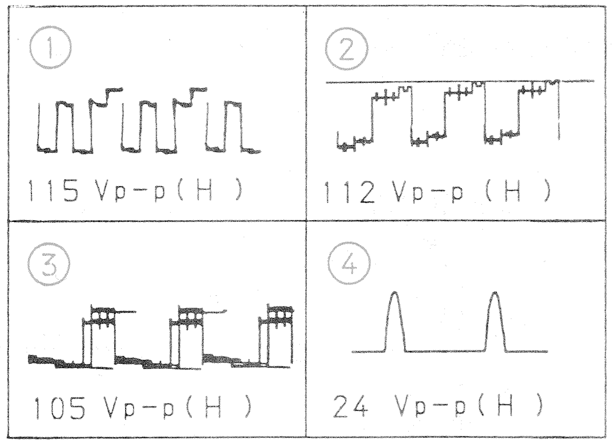
TRANSISTOR	
Q01	A – 1
Q03	C – 2
Q04	B – 2
Q06	B – 3
Q07	C – 1
Q08	A – 1
Q09	C – 1
Q010	C – 2
Q011	C – 2
Q012	C – 3

DIODE	
D01	B – 2
D03	B – 1
D04	B – 1
D09	C – 4
D010	C – 3
D011	C – 2
D012	C – 1

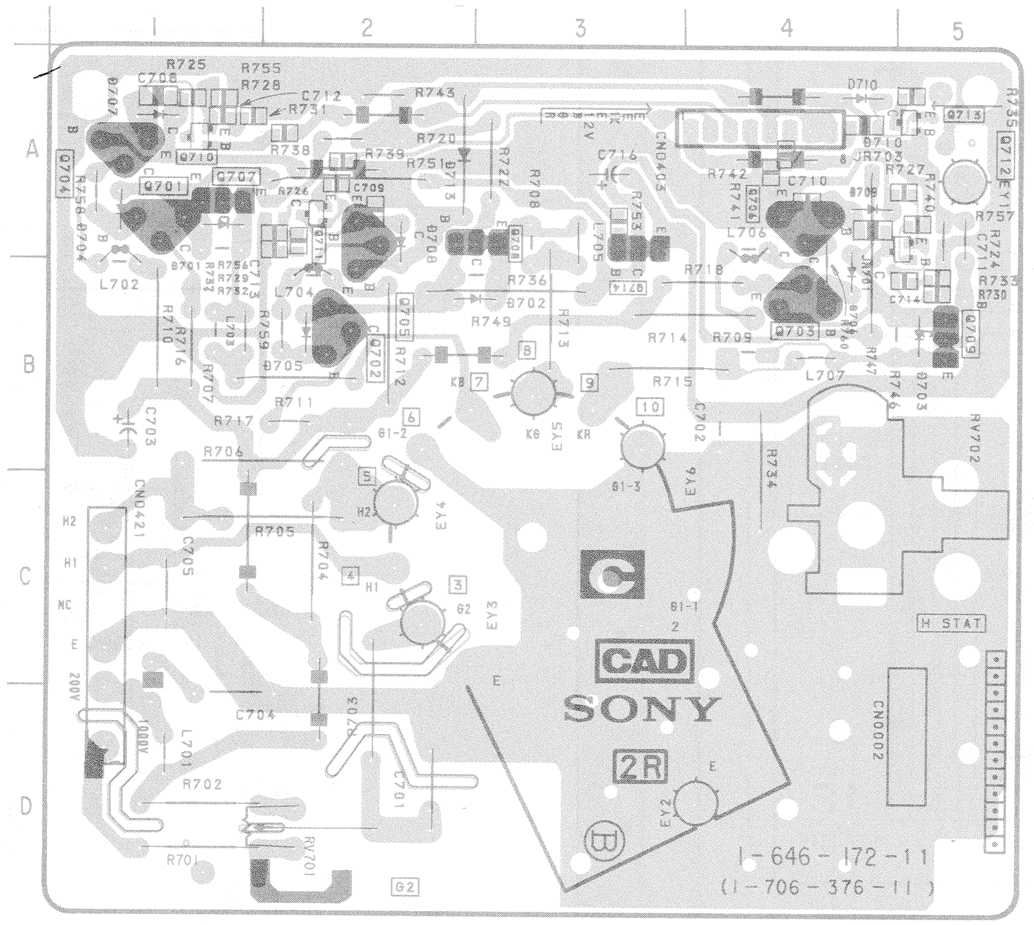

C
(RGB OUT)
TO Ð BOARD T801
FV
FOCUS
SCREEN MIN-MAX 221V-813V
H.STAT
J701
TO Ð BOARD CN0521
1000V
200V
GND
NC
H1
H2
CN0421 6P WHT :MINI
TO Ð BOARD CN5521
CN0002 2P WHT :MINI
+200V
+12V
Q703 BF871
Q702 BF871
Q701 BF871
Q706 BF871 RED DRIVE
Q709 2SA1091 RED CUT-OFF
Q705 BF871 GREEN DRIVE
Q708 2SA1091 GREEN CUT-OFF
Q704 BF871 BLUE DRIVE
Q707 2SA1091 BLUE CUT-OFF
Q712 2SC2412K BUFFER
Q711 2SC2412K BUFFER
Q710 2SC2412K BUFFER
1SS133 PROTECT
Q714 2SC2551 IK-DET
D713 GP08DPKG23 PROTECT
Q713 2SA1037K IK-BUFFER
D710 1SS133 PROTECT
CN0403 8P RED :S-MICRO
R
G
B
12V
E
IK
TO A BOARD CN0103
B-SS4265<AEP>-C..


3
4
5
6
7
8
9
10
TO B BOARD CN0521
TO B BOARD CN5521
V901
A59JWC61X
PICTURE TUBE
KG KB G2
CV KR G1 G4 HV
TO B BOARD T801 HV
CN0421 6P WHT :MINI
1 1000V
2 200V
3 GND
4 NC
5 H1
6 H2
CN0002 2P WHT :MINI
1 E
2 E
Q701 BF871
Q702 BF871
Q703 BF871
Q704 BF871 BLUE DRIVE
Q705 BF871 GREEN DRIVE
Q707 2SA1091 BLUE CUT-OFF
Q708 2SA1091 GREEN CUT-OFF
Q709 2SA1091 RED CUT-OFF
Q710 2SC2412K BUFFER
Q711 2SC2412K BUFFER
Q713 2SA1037K IK BUFFER
Q714 2SC2551 K-DET
D701 1SS133 PROTECT
D702 1SS133 PROTECT
D703 1SS133 PROTECT
D704 1SS133 PROTECT
D705 1SS133 PROTECT
D707 1SS133 PROTECT
D708 1SS133 PROTECT
D710 1SS133 PROTECT
D713 GP08DPKG23 PROTECT
RV701 2.2M 1/2W
CN0403 8P RED :S-MICRO
1 R
2 G
3 B
4 12V
5 E
6 IK
7 E
8 E
TO A BOARD CN0103
B-SS4265<AEP>-C..

• WAVEFORMS C BOARD



– C BOARD –

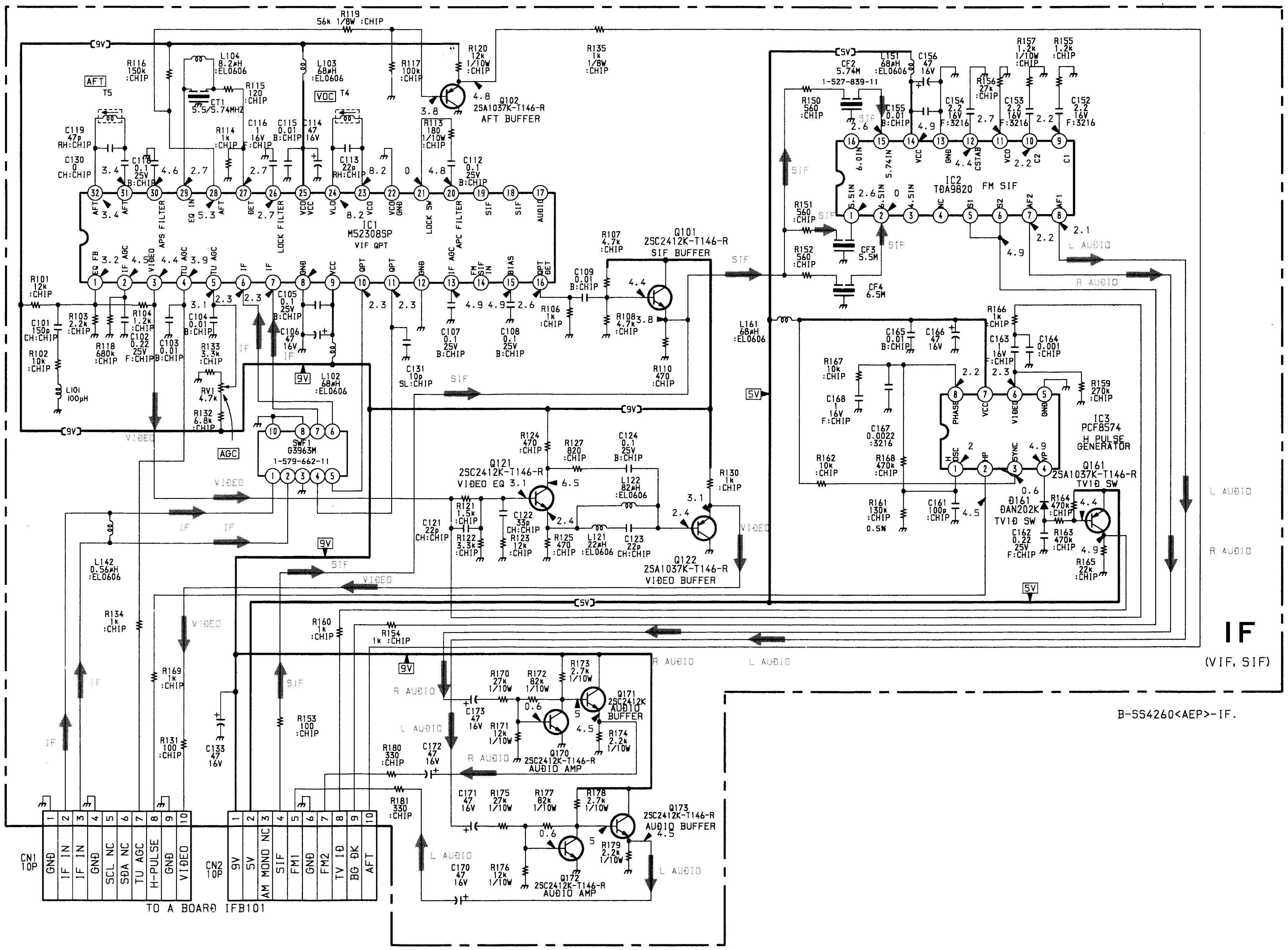

1
2
3
4
5
A
B
C
D
C
CAD
SONY
2R
H STAT
1-646-172-11
(1-706-376-11)

TRANSISTOR	
Q701	A-1
Q702	B-2
Q703	B-4
Q704	A-1
Q705	B-2
Q706	A-4
Q707	A-1
Q708	A-3
Q709	B-5
Q710	A-1
Q711	A-2
Q712	A-5
Q713	A-5
Q714	A-3

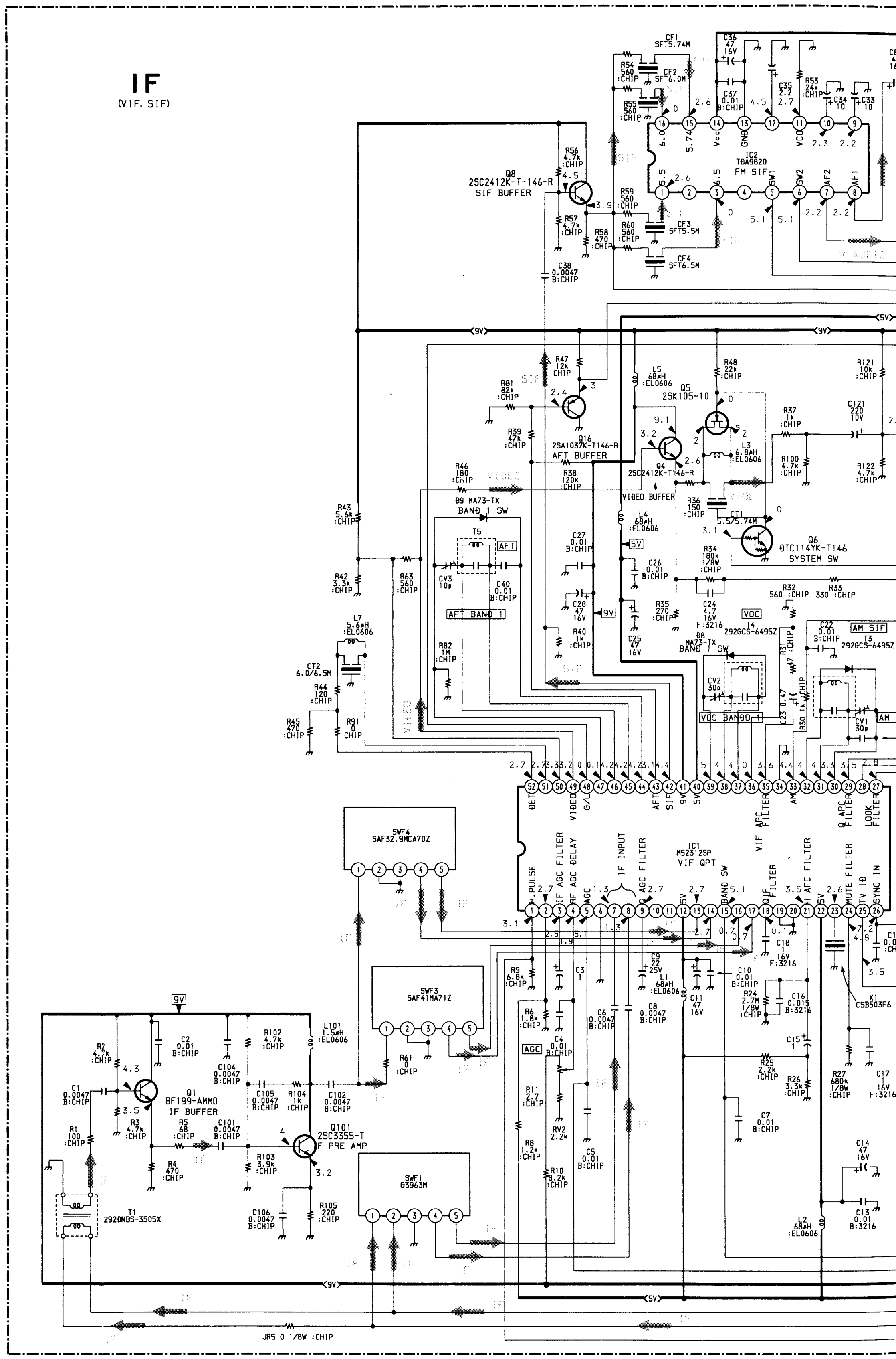
DIODE	
D701	A-1
D702	B-3
D703	B-5
D704	A-1
D705	B-2
D706	B-4
D707	A-1
D708	A-2
D709	A-4
D710	A-4
D713	A-2

VARIABLE RESISTOR	
RV701	D-2
RV702	C-4

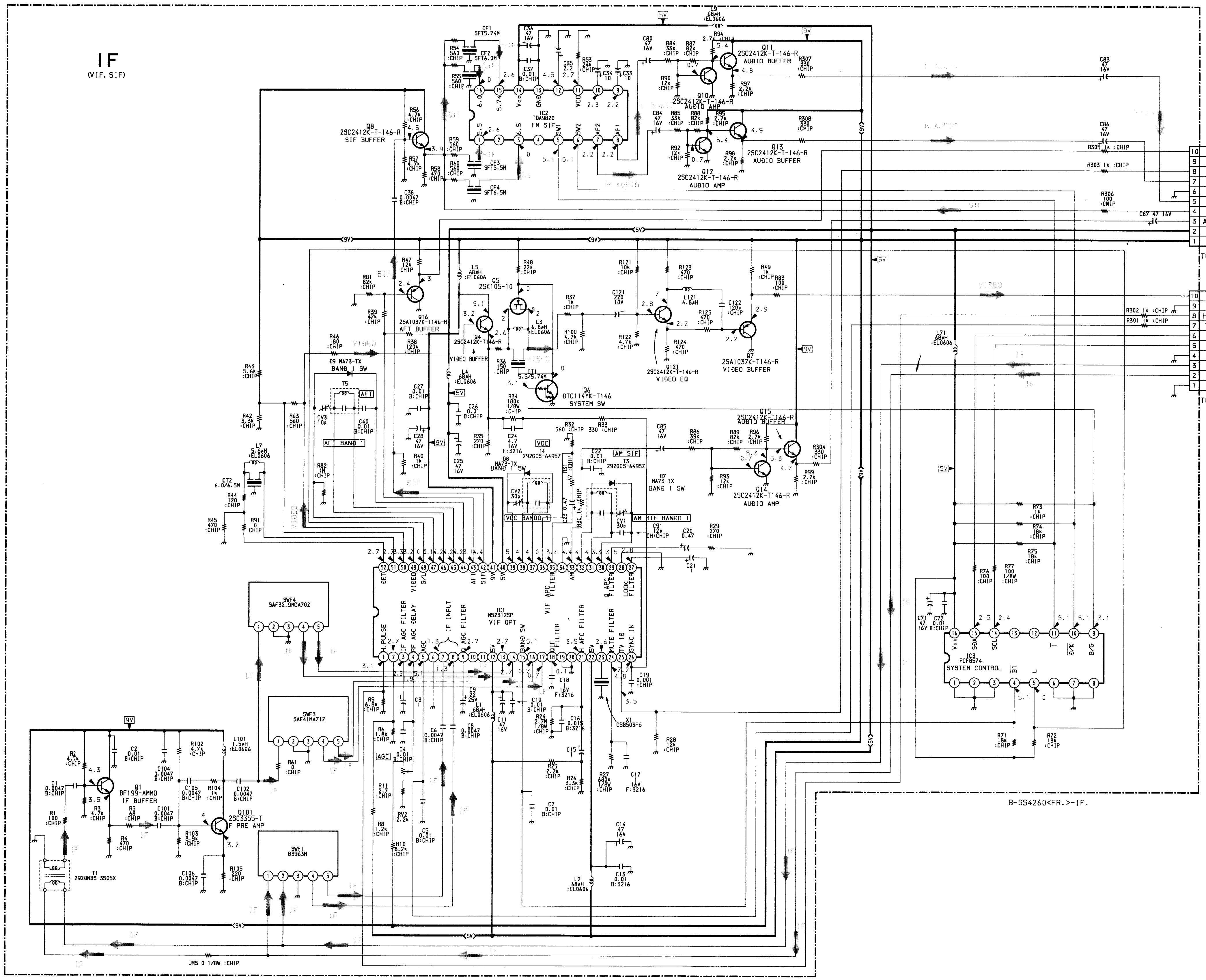
IFH389 (KV-B2511A/B2511D/B2513E/B2511K)


IF
(VIF, SIF)
B-SS4260<AEP>-IF.
IC1 M52308SP VIF QPT
IC2 TDA9820 FM SIF
IC3 PCF8574 H PULSE GENERATOR
Q101 2SC2412K-T146-R SIF BUFFER
Q102 2SA1037K-T146-R AFT BUFFER
Q121 2SC2412K-T146-R VIDEO EQ
Q122 2SA1037K-T146-R VIDEO BUFFER
Q161 2SA1037K-T146-R TV1D SW
Q170 2SC2412K-T146-R AUDIO AMP
Q171 2SC2412K AUDIO BUFFER
Q172 2SC2412K-T146-R AUDIO AMP
Q173 2SC2412K-T146-R AUDIO BUFFER
D161 DAN202K TV1D SW
SWF1 G3963M 1-579-662-11
CN1 10P
CN2 10P
TO A BOARD IFB101
GND
IF IN
IF IN
GND
SCL NC
SDA NC
TU AGC
H-PULSE
GND
VIDEO
9V
5V
AM MONO NC
SIF
FM1
GND
FM2
TV ID
BG DK
AFT
AFT
VCO
AGC
VIDEO
SIF
L AUDIO
R AUDIO

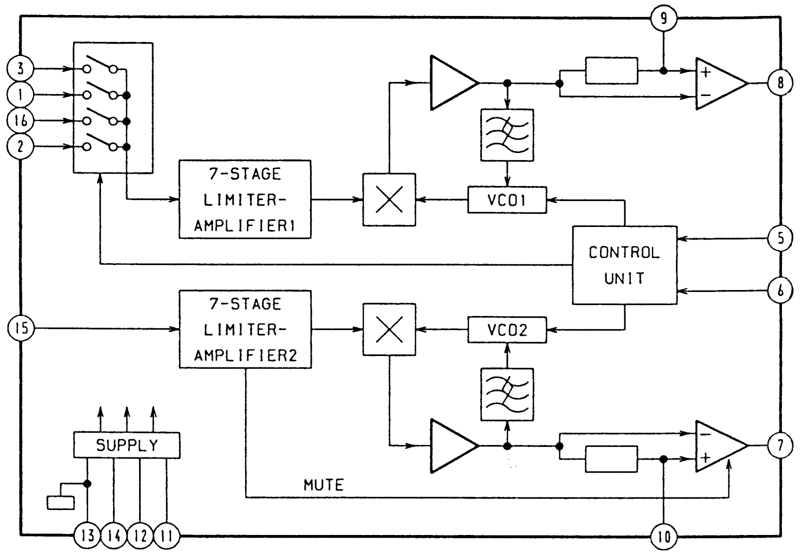
IFH389S (KV-B2511B only)


IF
(VIF, SIF)
IC1 M52312SP VIF QPT
IC2 TDA9820 FM SIF
Q1 BF199-AMMO IF BUFFER
Q101 2SC3355-T IF PRE AMP
Q4 2SC2412K-T146-R VIDEO BUFFER
Q5 2SK105-10
Q6 DTC114YK-T146 SYSTEM SW
Q8 2SC2412K-T-146-R SIF BUFFER
Q16 2SA1037K-T146-R AFT BUFFER
SWF1 G3963M
SWF3 SAF41MA71Z
SWF4 SAF32.9MCA70Z
T1 2928NBS-3505X
JR5 0 1/8W :CHIP
AFT BAND 1
VOC BAND 1
AM SIF

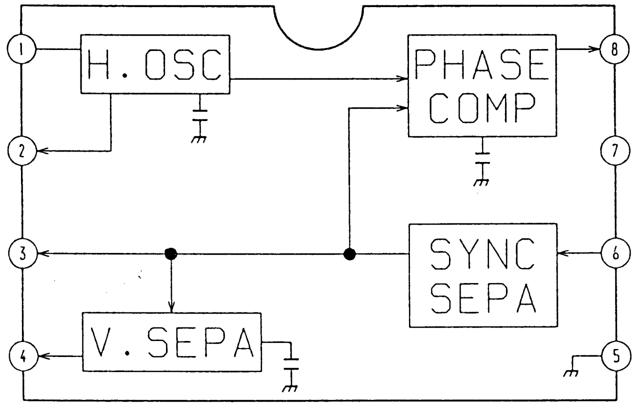
IFH389S (KV-B2511B only)


IF
(VIF, SIF)
IC1 M52312SP VIF QPT
IC2 TDA9820 FM SIF
IC3 PCF8574 SYSTEM CONTROL
Q1 BF199-AMMO IF BUFFER
Q101 2SC3355-T IF PRE AMP
Q8 2SC2412K-T-146-R SIF BUFFER
Q4 2SC2412K-T146-R VIDEO BUFFER
Q5 2SK105-10
Q6 DTC114TK-T146 SYSTEM SW
Q7 2SA1037K-T146-R VIDEO BUFFER
Q121 2SC2412K-T-146-R VIDEO EQ
Q16 2SA1037K-T146-R AFT BUFFER
Q10 2SC2412K-T-146-R AUDIO AMP
Q11 2SC2412K-T-146-R AUDIO BUFFER
Q12 2SC2412K-T-146-R AUDIO AMP
Q13 2SC2412K-T-146-R AUDIO BUFFER
Q14 2SC2412K-T-146-R AUDIO AMP
Q15 2SC2412K-T-146-R AUDIO BUFFER
SWF1 G3963M
SWF3 SAF41MA71Z
SWF4 SAF32.9MCA70Z
X1 CSB503F6
T1 2920N85-3505X
CN2 10P WHT
TO A BOARD IFB101
10 AFT
9 BG/DK
8 TV ID
7 FM2
6 GND
5 FM1
4 SIF
3 AM MONO
2 5V
1 9V
CN1 10P WHT
TO A BOARD IFB101
10 VIDEO
9 GND
8 H-PULSE
7 TU AGC
6 SDA
5 SCL
4 GND
3 IF IN
2 IF IN
1 GND
9V
5V
B-SS4260<FR.>-IF.

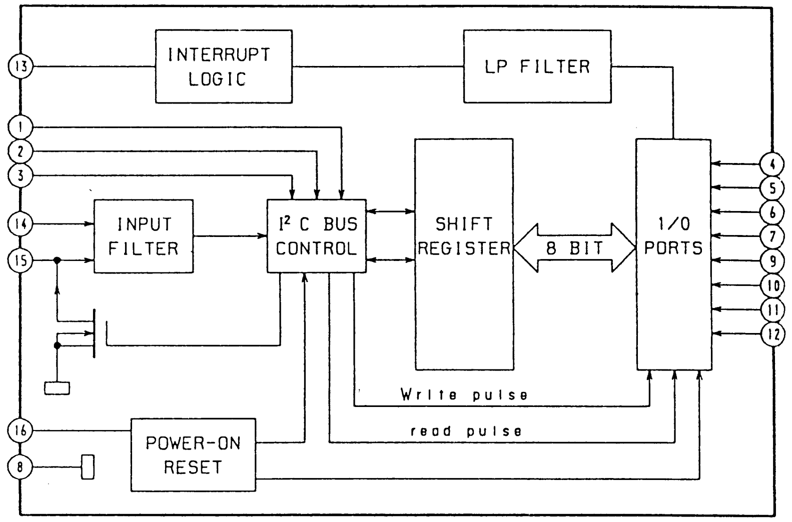
• IF BOARD IC2 TDA9820 (KV-B2511A/B2511D/B2513E/B2511K)

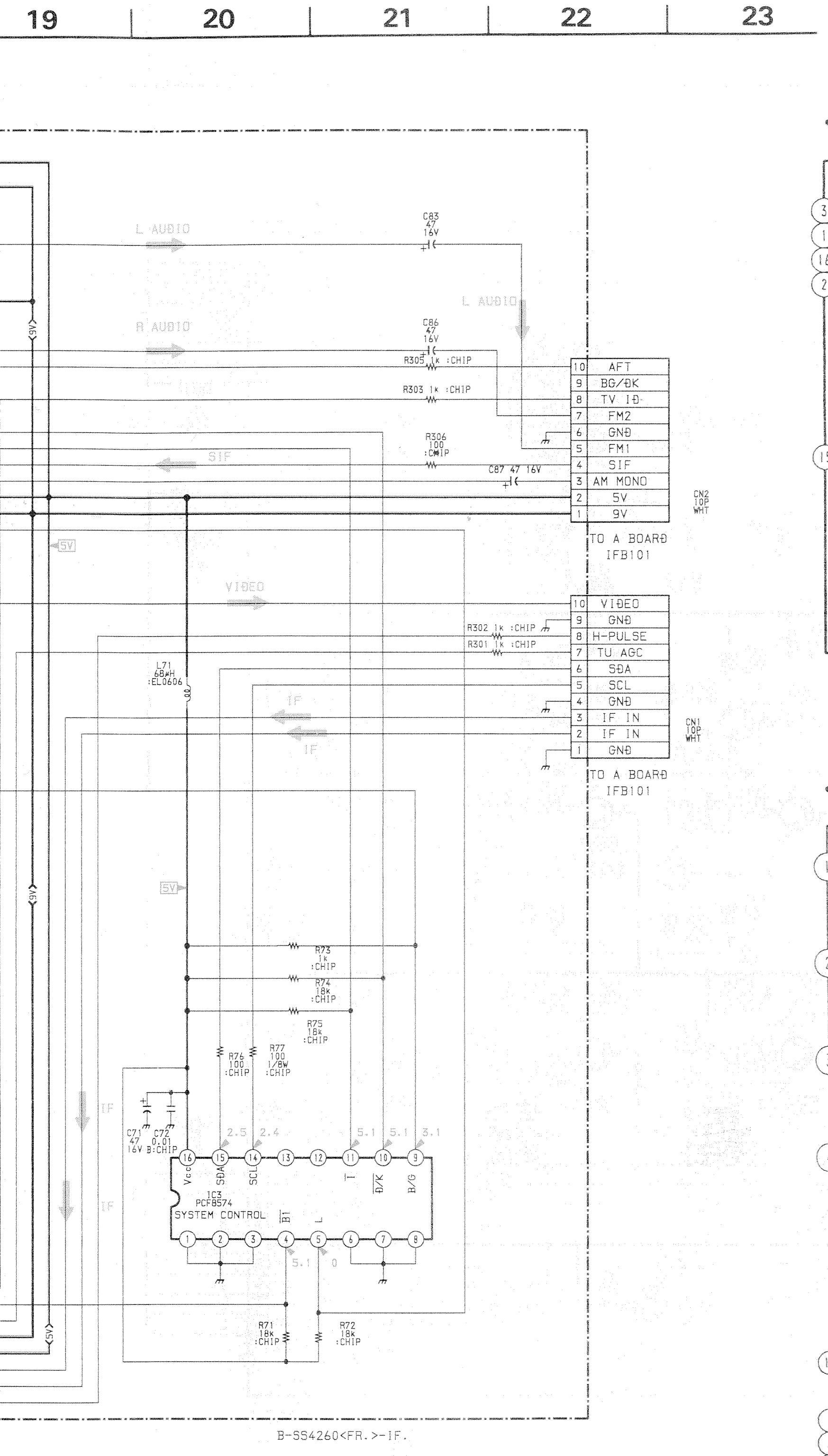

7-STAGE LIMITER-AMPLIFIER1
7-STAGE LIMITER-AMPLIFIER2
VCO1
VCO2
CONTROL UNIT
SUPPLY
MUTE
1
2
3
5
6
7
8
9
10
11
12
13
14
15
16

• IF BOARD IC3 BA7046 (KV-B2511A/B2511D/B2513E/B2511K)

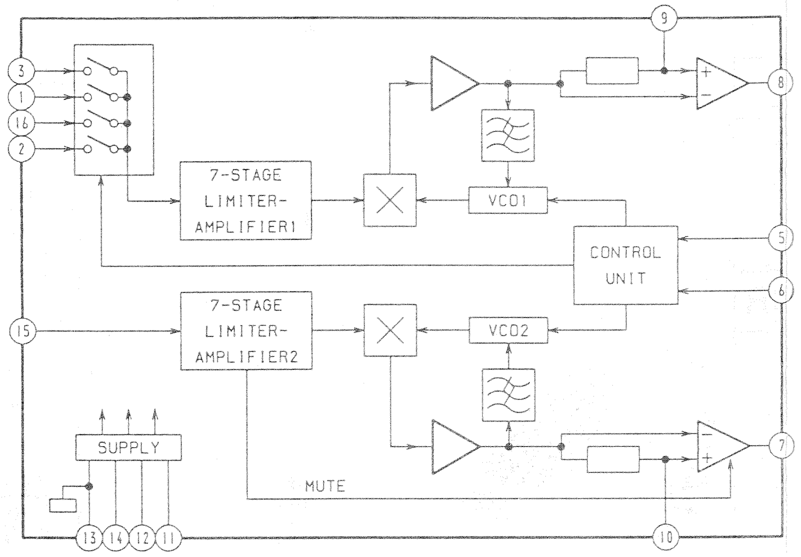

H.OSC
PHASE COMP
SYNC SEPA
V.SEPA
1
2
3
4
5
6
7
8

• IF BOARD IC3 PCF8574 (KV-B2511B only)

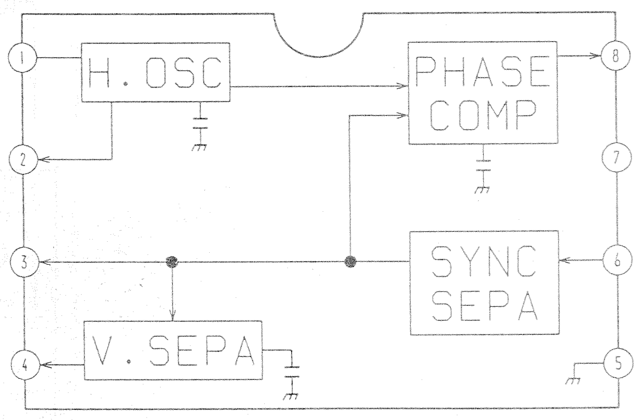

INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I2 C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
Write pulse
read pulse
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16


19
20
21
22
23
L AUDIO
R AUDIO
SIF
VIDEO
IF
5V
C83 47 16V
C86 47 16V
R305 1k :CHIP
R303 1k :CHIP
R306 100 :CHIP
C87 47 16V
10 AFT
9 BG/DK
8 TV I0
7 FM2
6 GND
5 FM1
4 SIF
3 AM MONO
2 5V
1 9V
CN2 10P WHT
TO A BOARD IFB101
R302 1k :CHIP
R301 1k :CHIP
10 VIDEO
9 GND
8 H-PULSE
7 TU AGC
6 SDA
5 SCL
4 GND
3 IF IN
2 IF IN
1 GND
CN1 10P WHT
TO A BOARD IFB101
L71 68μH
R73 1k :CHIP
R74 18k :CHIP
R75 18k :CHIP
R76 100 :CHIP
R77 100 1/8W :CHIP
C71 47 16V
C72 0.01 B:CHIP
IC3 PCF8574 SYSTEM CONTROL
Vcc
SDA
SCL
R71 18k :CHIP
R72 18k :CHIP
B-SS4260<FR.>-IF.

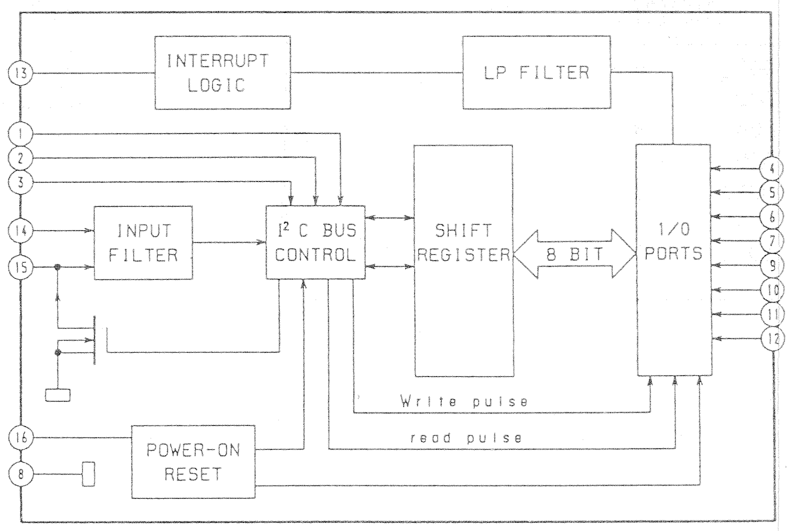
• IF BOARD IC2 TDA9820 (KV-B2511A/B2511D/B2513E/B2511K)


7-STAGE LIMITER-AMPLIFIER1
7-STAGE LIMITER-AMPLIFIER2
VCO1
VCO2
CONTROL UNIT
SUPPLY
MUTE
1
2
3
5
6
7
8
9
10
11
12
13
14
15
16

• IF BOARD IC3 BA7046 (KV-B2511A/B2511D/B2513E/B2511K)


H.OSC
PHASE COMP
SYNC SEPA
V.SEPA
1
2
3
4
5
6
7
8

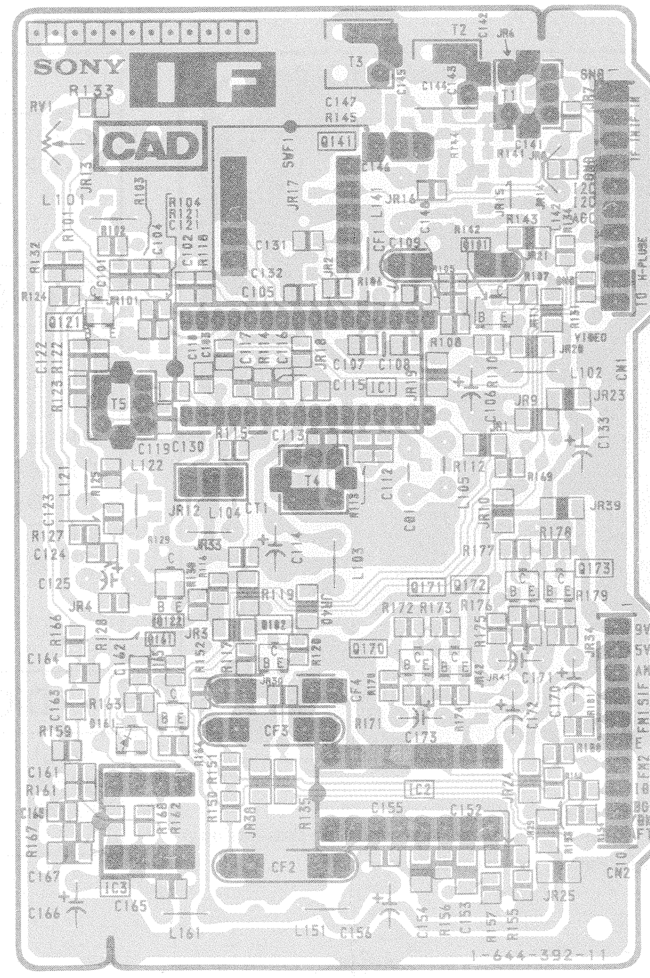
• IF BOARD IC3 PCF8574 (KV-B2511B only)


INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I² C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
Write pulse
read pulse
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

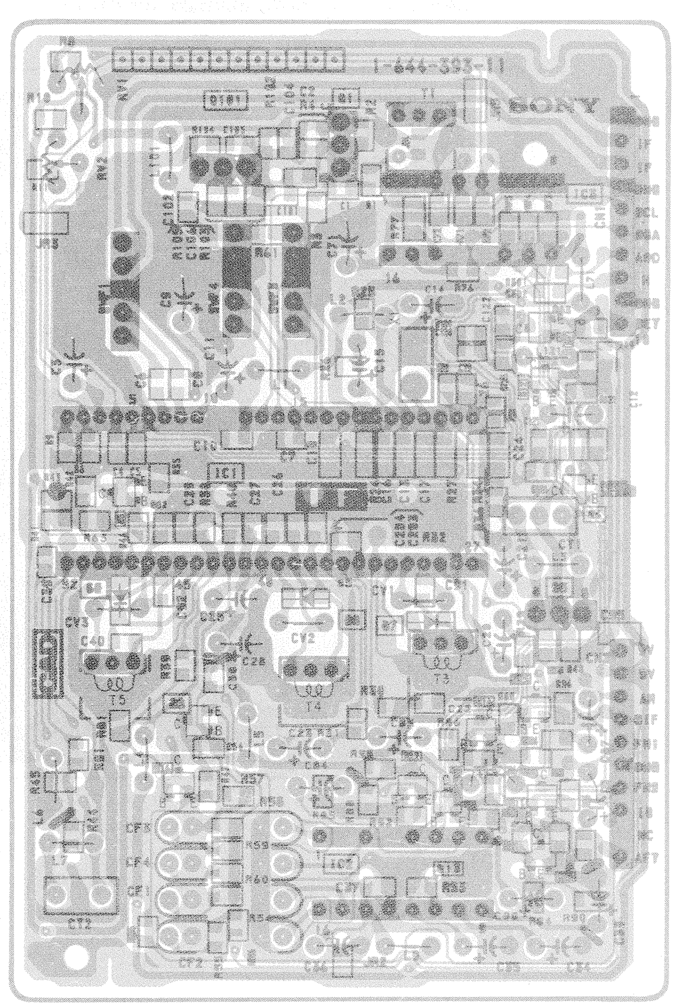
I F

[VIF, SIF]

– IF BOARD – (KV-B2511A/B2511D/B2513E/B2511K)

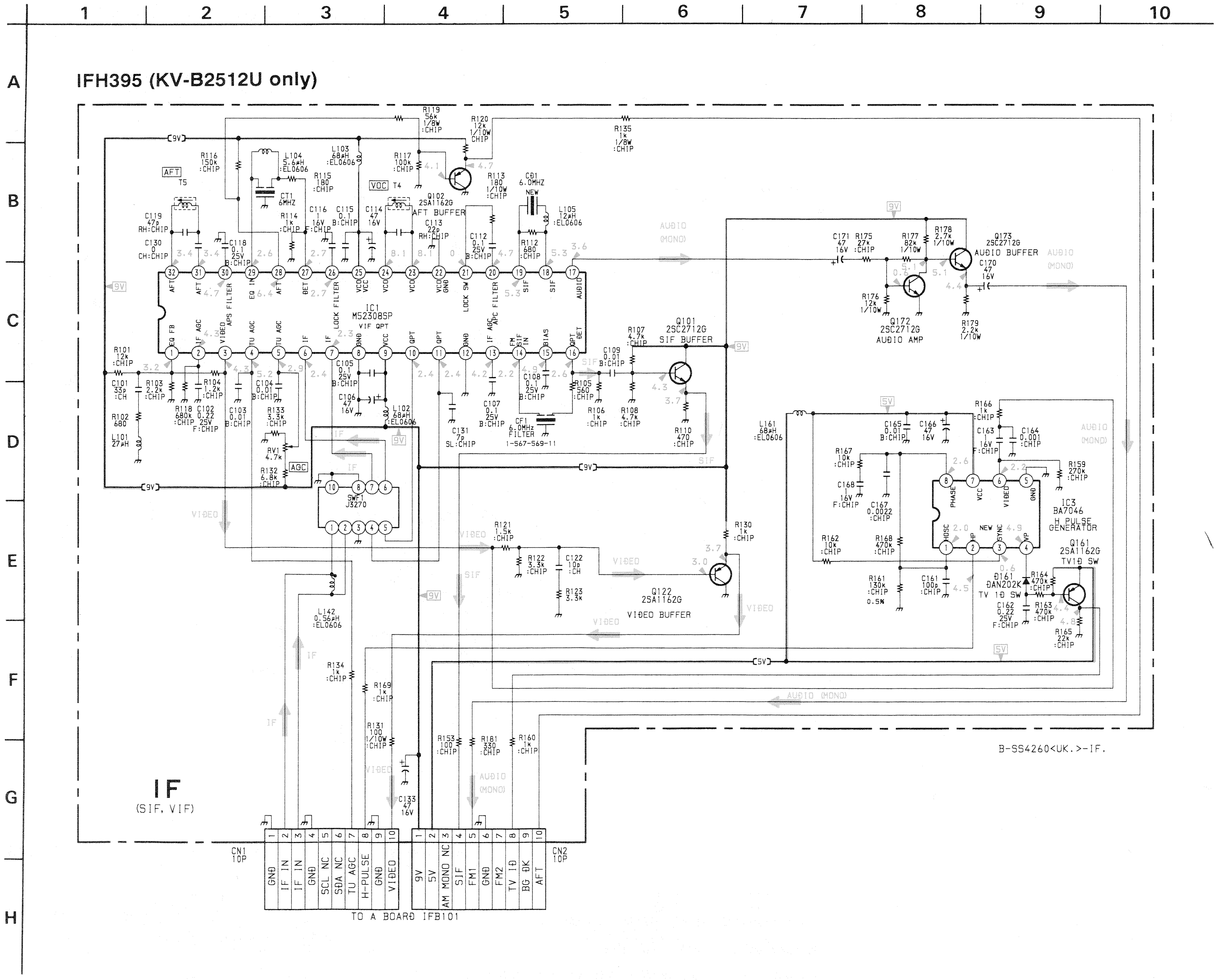

SONY
IF
CAD
1-644-392-11

– IF BOARD – (KV-B2511B only)


SONY
1-644-393-11

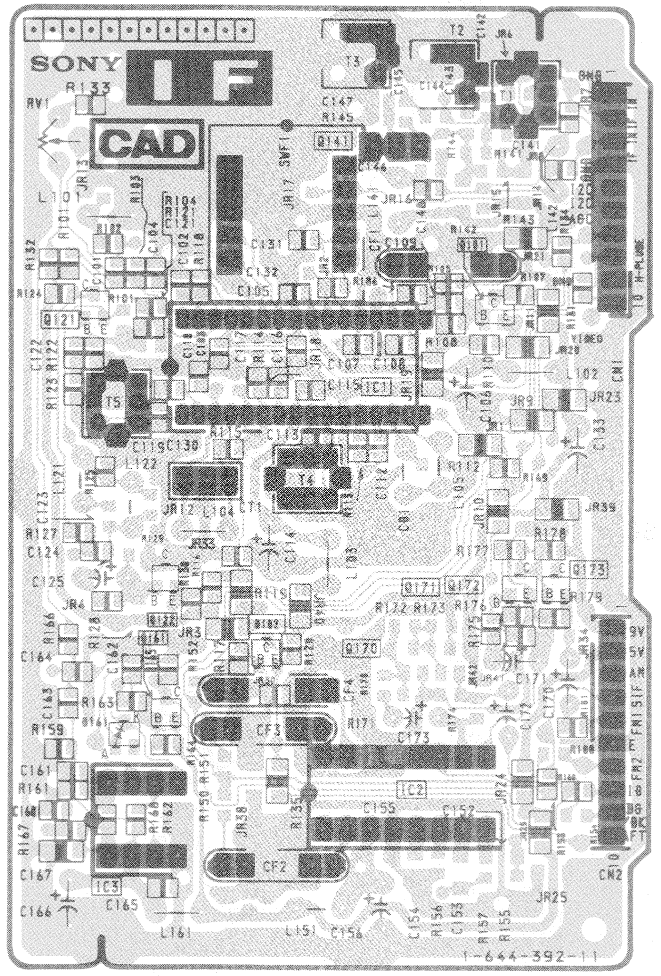
Note :
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

IFH395 (KV-B2512U only)

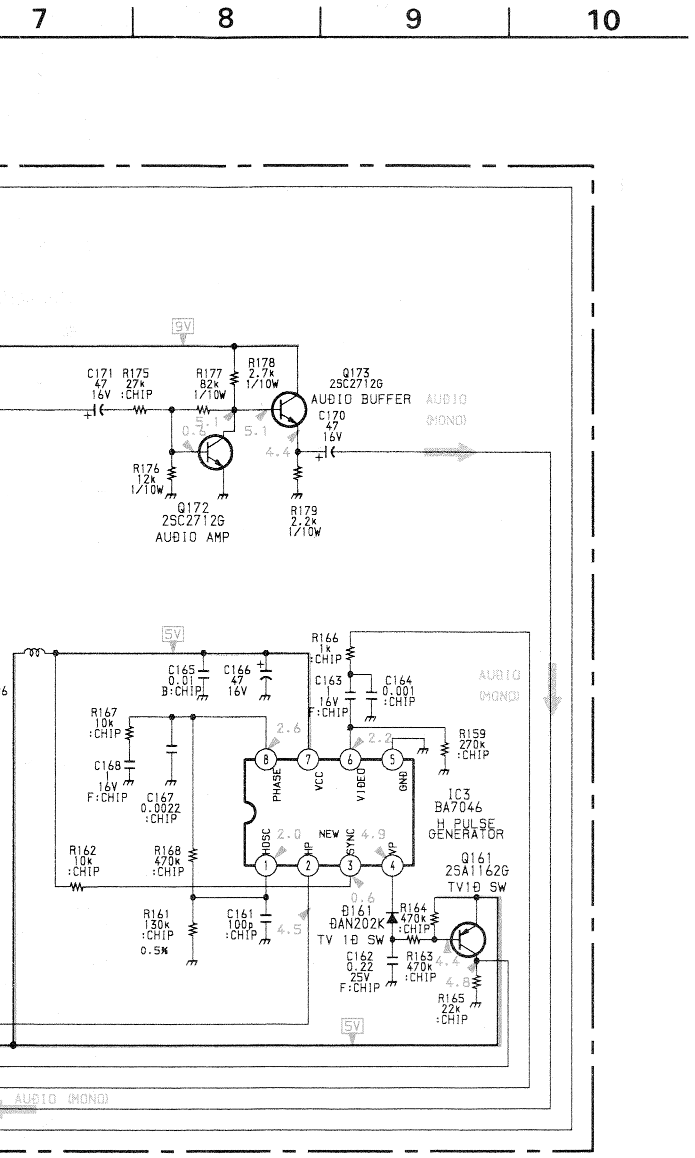

1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
H
IC1 M52308SP VIF QPT
Q101 2SC2712G SIF BUFFER
Q102 2SA1162G AFT BUFFER
Q122 2SA1162G VIDEO BUFFER
Q172 2SC2712G AUDIO AMP
Q173 2SC2712G AUDIO BUFFER
Q161 2SA1162G TV1D SW
IC3 BA7046 H PULSE GENERATOR
D161 DAN202K TV 1D SW
SWF1 J3270
CF1 6.0MHz FILTER 1-567-569-11
CT1 6MHz
CB1 6.0MHz
T4
T5
AFT
VCO
AGC
RV1 4.7k
L101 27μH
L102 68μH :EL0606
L103 68μH :EL0606
L104 5.6μH :EL0606
L105 12μH :EL0606
L142 0.56μH :EL0606
L161 68μH :EL0606
9V
5V
VIDEO
IF
SIF
AUDIO (MONO)
IF (SIF, VIF)
CN1 10P
CN2 10P
GND
IF IN
IF IN
GND
SCL NC
SDA NC
TU AGC
H-PULSE
GND
VIDEO
9V
5V
AM MONO NC
SIF
FM1
GND
FM2
TV ID
BG DK
AFT
TO A BOARD IFB101
B-SS4260<UK.>-IF.

I F [VIF, SIF]

– IF BOARD – (KV-B2512U only)


SONY
IF
CAD
T2
T3
T4
T5
IC1
IC2
IC3
CF2
CF3
CN1
CN2
9V
5V
AM
SIF
FM1
FM2
GND
BG
DK
AFT
IF IN
H-PULSE
VIDEO
1-644-392-11

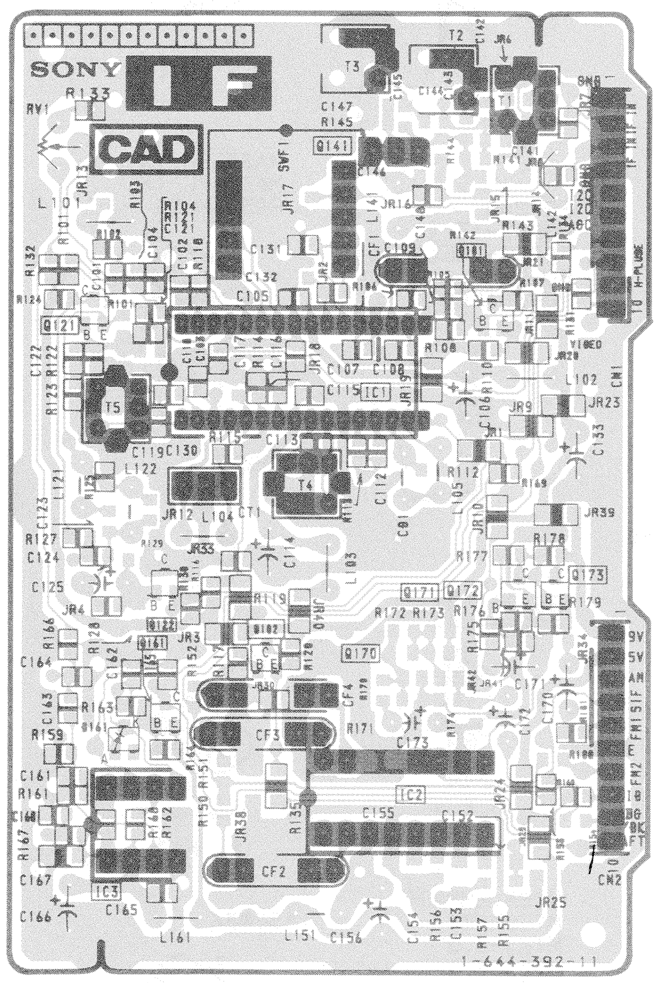
5-5. SCHEMATIC DIAGRAM OF TUNER
A BOARD TU101 UV916H

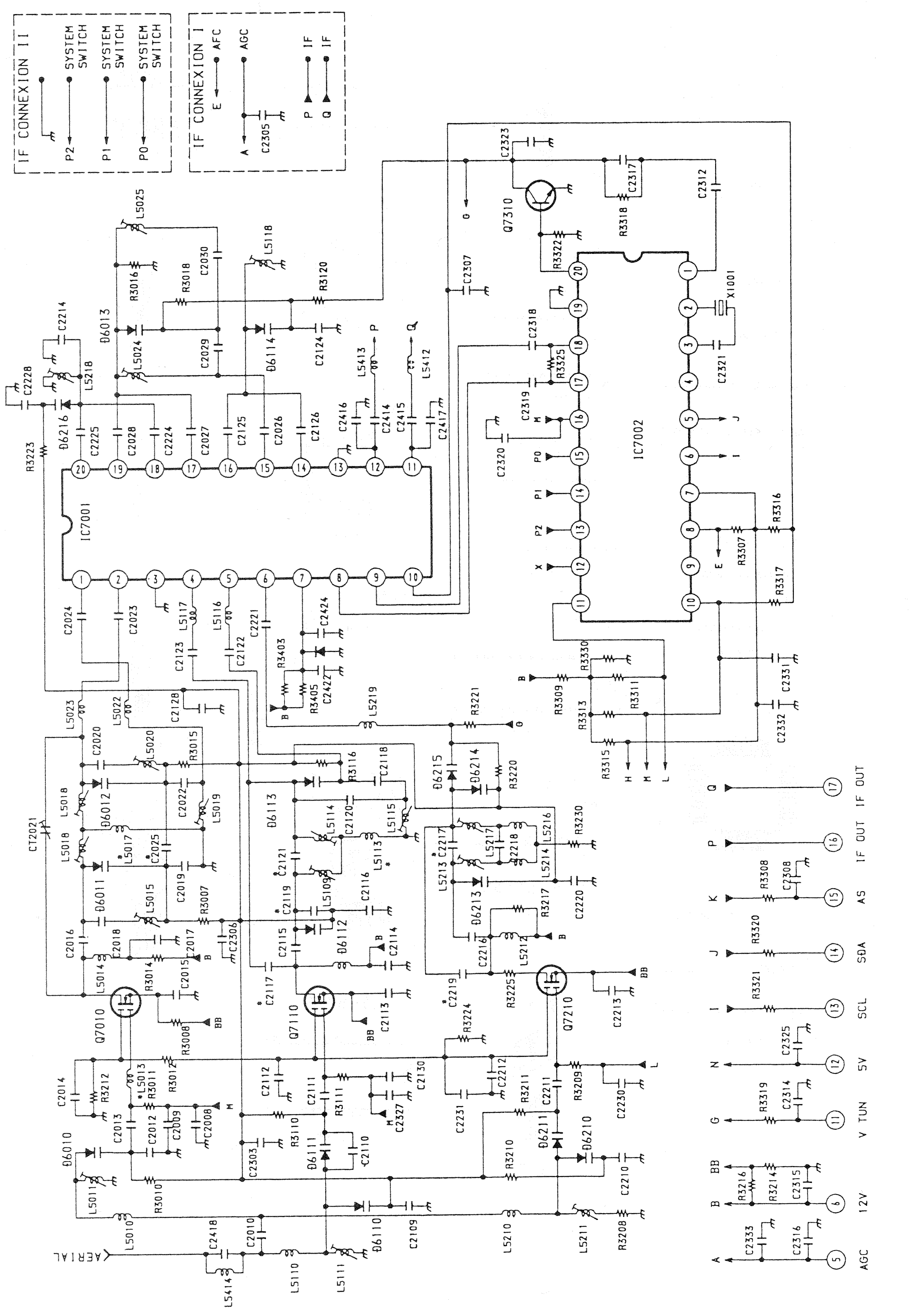

7
8
9
10
9V
C171 47 16V
R175 27k :CHIP
R177 82k 1/10W
R178 2.7k 1/10W
Q173 2SC2712G AUDIO BUFFER
AUDIO (MONO)
C170 47 16V
R176 12k 1/10W
Q172 2SC2712G AUDIO AMP
R179 2.2k 1/10W
5V
R166 1k :CHIP
C165 0.01 B:CHIP
C166 47 16V
C163 1 16V F:CHIP
C164 0.001 :CHIP
R167 10k :CHIP
C168 1 16V F:CHIP
C167 0.0022 :CHIP
R159 270k :CHIP
IC3 BA7046 H PULSE GENERATOR
PHASE
VCC
VIDEO
GND
HOSC
NEW
SYNC
R162 10k :CHIP
R168 470k :CHIP
R161 130k :CHIP
C161 100p :CHIP
D161 DAN202K TV 1⊕ SW
R164 470k :CHIP
Q161 2SA1162G TV1⊕ SW
C162 0.22 25V F:CHIP
R163 470k :CHIP
R165 22k :CHIP
AUDIO (MONO)

B-SS4260<UK.>-IF.

I F [VIF, SIF]

– IF BOARD – (KV-B2512U only)


SONY
IF
CAD
T3
T2
T1
RV1
R133
L101
SWF1
Q141
CF1
IC1
T5
T4
CF3
CF4
CF2
IC2
IC3
Q170
Q171
Q172
Q173
CN1
CN2
9V
5V
AM
SIF
FM1
FM2
1-644-392-11


IF CONNEXION II
SYSTEM SWITCH
P2
P1
P0
IF CONNEXION I
AFC
AGC
IF
E
A
P
Q
C2305
IC7001
IC7002
Q7010
Q7110
Q7210
Q7310
X1001
AERIAL
AGC
12V
V TUN
5V
SCL
SDA
AS
IF OUT
IF OUT

5-5. SCHEMATIC DIAGRAM OF TUNER
A BOARD TU101 UV916H